

CA20N

EAB

-H26



Ontario

# ENVIRONMENTAL ASSESSMENT BOARD

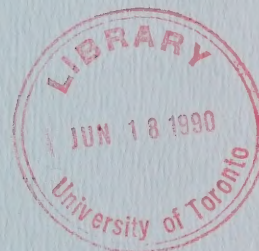
VOLUME: 210

DATE: Friday, June 1, 1990

BEFORE:

A. KOVEN, Chairman

E. MARTEL, Member



FOR HEARING UPDATES CALL (TOLL-FREE): 1-800-387-8810

**EARR**  
ASSOCIATES &  
REPORTING INC.

(416) 482-3277

2300 Yonge St., Suite 709, Toronto, Canada M4P 1E4





CA20N  
EAB  
-H26

EA-87-02



Ontario

# ENVIRONMENTAL ASSESSMENT BOARD

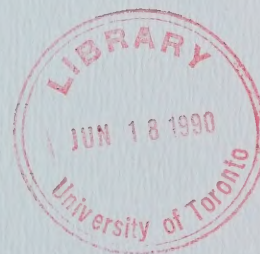
VOLUME: 210

DATE: Friday, June 1, 1990

BEFORE:

A. KOVEN, Chairman

E. MARTEL, Member




FOR HEARING UPDATES CALL (TOLL-FREE): 1-800-387-8810

**EARR**  
ASSOCIATES &  
REPORTING INC.

(416) 482-3277

2300 Yonge St., Suite 709, Toronto, Canada M4P 1E4





Digitized by the Internet Archive  
in 2023 with funding from  
University of Toronto

<https://archive.org/details/31761116524331>



HEARING ON THE PROPOSAL BY THE MINISTRY OF NATURAL  
RESOURCES FOR A CLASS ENVIRONMENTAL ASSESSMENT FOR  
TIMBER MANAGEMENT ON CROWN LANDS IN ONTARIO

IN THE MATTER of the Environmental  
Assessment Act, R.S.O. 1980, c.140;

- and -

IN THE MATTER of the Class Environmental  
Assessment for Timber Management on Crown  
Lands in Ontario;

- and -

IN THE MATTER OF a Notice by the  
Honourable Jim Bradley, Minister of the  
Environment, requiring the Environmental  
Assessment Board to hold a hearing with  
respect to a Class Environmental  
Assessment (No. NR-AA-30) of an  
undertaking by the Ministry of Natural  
Resources for the activity of timber  
management on Crown Lands in Ontario.

-----

Hearing held at the offices of the Ontario  
Highway Transport Commission, Britannica  
Building, 151 Bloor Street West, 10th Floor,  
Toronto, Ontario, on Friday, June  
1st, 1990, commencing at 8:30 a.m.

-----

VOLUME 210

BEFORE:

MRS. ANNE KOVEN  
MR. ELIE MARTEL

Chairman  
Member







A P P E A R A N C E S

MR. V. FREIDIN, Q.C.)	
MS. C. BLASTORAH )	MINISTRY OF NATURAL
MS. K. MURPHY )	RESOURCES
MR. B. CAMPBELL )	
MS. J. SEABORN )	MINISTRY OF ENVIRONMENT
MS. B. HARVIE )	
MR. R. TUER, Q.C. )	ONTARIO FOREST INDUSTRIES
MR. R. COSMAN )	ASSOCIATION and ONTARIO
MS. E. CRONK )	LUMBER MANUFACTURERS'
MR. P.R. CASSIDY )	ASSOCIATION
MR. H. TURKSTRA	ENVIRONMENTAL ASSESSMENT BOARD
MR. E. HANNA )	ONTARIO FEDERATION OF
DR. T. QUINNEY )	ANGLERS & HUNTERS
MR. D. HUNTER )	NISHNAWBE-ASKI NATION
MS. N. KLEER )	and WINDIGO TRIBAL COUNCIL
MR. J.F. CASTRILLI )	
MS. M. SWENARCHUK )	FORESTS FOR TOMORROW
MR. R. LINDGREN )	
MR. P. SANFORD )	KIMBERLY-CLARK OF CANADA
MS. L. NICHOLLS )	LIMITED and SPRUCE FALLS
MR. D. WOOD )	POWER & PAPER COMPANY
MR. D. MacDONALD	ONTARIO FEDERATION OF LABOUR
MR. R. COTTON	BOISE CASCADE OF CANADA LTD.
MR. Y. GERVAIS )	ONTARIO TRAPPERS
MR. R. BARNES )	ASSOCIATION
MR. R. EDWARDS )	NORTHERN ONTARIO TOURIST
MR. B. McKERCHER )	OUTFITTERS ASSOCIATION







APPEARANCES: (Cont'd)

MR. L. GREENSPOON	)	NORTHWATCH
MS. B. LLOYD	)	
MR. J.W. ERICKSON, Q.C.)		RED LAKE-EAR FALLS JOINT
MR. B. BABCOCK	)	MUNICIPAL COMMITTEE
MR. D. SCOTT	)	NORTHWESTERN ONTARIO
MR. J.S. TAYLOR	)	ASSOCIATED CHAMBERS
		OF COMMERCE
MR. J.W. HARBELL	)	GREAT LAKES FOREST
MR. S.M. MAKUCH	)	
MR. J. EBBS		ONTARIO PROFESSIONAL
		FORESTERS ASSOCIATION
MR. D. KING		VENTURE TOURISM
		ASSOCIATION OF ONTARIO
MR. D. COLBORNE	)	GRAND COUNCIL TREATY #3
MS. S.V. BAIR-MUIRHEAD	)	
MR. R. REILLY		ONTARIO METIS &
		ABORIGINAL ASSOCIATION
MR. H. GRAHAM		CANADIAN INSTITUTE OF
		FORESTRY (CENTRAL
		ONTARIO SECTION)
MR. G.J. KINLIN		DEPARTMENT OF JUSTICE
MR. S.J. STEPINAC		MINISTRY OF NORTHERN
		DEVELOPMENT & MINES
MR. M. COATES		ONTARIO FORESTRY
		ASSOCIATION
MR. P. ODORIZZI		BEARDMORE-LAKE NIPIGON
		WATCHDOG SOCIETY





APPEARANCES: (Cont'd)

MR. R.L. AXFORD

CANADIAN ASSOCIATION OF  
SINGLE INDUSTRY TOWNS

MR. M.O. EDWARDS

FORT FRANCES CHAMBER OF  
COMMERCE

MR. P.D. McCUTCHEON

GEORGE NIXON

MR. C. BRUNETTA

NORTHWESTERN ONTARIO  
TOURISM ASSOCIATION





I N D E X   O F   P R O C E E D I N G S

<u>Witness:</u>	<u>Page No.</u>
<u>MAXWELL McCORMACK,</u>	
<u>RODERICK CARROW,</u>	
<u>ROBERT TOMCHICK,</u>	
<u>WILLIAM SMITH,</u>	
<u>MURRAY FERGUSON,</u>	
<u>PHILIP BUNCE,</u>	
<u>GEORGE STANCLIK, Resumed</u>	37584
Continued Cross-Examination by Mr. Freidin	37584
Cross-Examination by Ms. Seaborn	37627
Re-Direct Examination by Ms. Cronk	37723





I N D E X   O F   E X H I B I T S

<u>Exhibit No.</u>	<u>Description</u>	<u>Page No.</u>
1211	Excerpt from Iroquois Falls Forest FMA 500200 consisting of cover page and Table 4.11.	37630
1212	Excerpt from Iroquois Falls FMA Plan (pp. 214 to 220).	37640
1213	Forest Management Agreement, 500700, Spruce River Forest, April 1, 1986 to March 31, 1991.	37651
1214	Table 5-7, excerpt from Spruce River Forest FMA Plan.	37653
1215	Silvicultural ground rules re Upper Spanish Forest FMA 500400, prepared by E.B. Eddy Forest Products.	37663
1216	Excerpt from Upper Spanish Forest TMP re the forecast of renewal and maintenance operations.	37673
1217	Excerpt from the English River Forest TMP.	37673
1218	Excerpt from English River Forest TMP re forecast of renewal and maintenance operations.	37680
1219	Guideline for no spray buffer zones in the State of Maine.	37776
1220	Excerpt from a text entitled Forest Vegetation Management for Conifer Production.	37778
1221	Written reply to NAN undertaking given in oral evidence on May 30th, 1990.	37805





1           ---Upon commencing at 8:35 a.m.

2                       MADAM CHAIR: Good morning. Please be  
3 seated.

4                       Mr. Freidin?

5                       MR. FREIDIN: I was going to start with  
6 Mr. Ferguson, the most professional blueberry picker.  
7 I wanted to ask him how to get that blue stuff off your  
8 fingers, but I will save that for later, Mr. Ferguson.

9

10                               MAXWELL McCORMACK,  
11                               RODERICK CARROW,  
12                               ROBERT TOMCHICK,  
13                               MURRAY FERGUSON,  
14                               WILLIAM SMITH,  
15                               PHILIP BUNCE,  
16                               GEORGE STANCLIK, Resumed

17           CONTINUED CROSS-EXAMINATION BY MR. FREIDIN:

18                       Q. Dean Carrow, do you agree that the  
19 need for a standard for foliage protection such as you  
20 propose is not universally accepted by all forest  
21 entomologists?

22                       DEAN CARROW: A. I really couldn't  
23 answer that question conclusively, Mr. Freidin, having  
24 not canvassed all forest entomologists.

25                       I would, however, comment that forest  
entomologists routinely have not had a particularly  
strong involvement in the whole field of timber  
management planning, wood supply planning and so on,

1 and in fact their involvement has tended to focus more  
2 on the insect than on the forest itself, and the  
3 standard of course relates to the forest and the  
4 condition of the forest.

5 Q. You would agree, however, that  
6 entomologists are concerned about the amount of  
7 defoliation that occurs to the trees in the forest?  
8 That's one of the things that they are most concerned  
9 about?

10 A. That's certainly one of the things  
11 that's measured as part of the assessment program,  
12 that's right.

13 Q. The other day you indicated that Dr.  
14 Gordon Howse was the director of -- or the head of the  
15 Forest Insect and Disease Survey unit. He is an expert  
16 in entomology?

17 A. Yes, he is.

18 Q. And is he an expert whose  
19 professional opinion you would hold in high regard in  
20 matters of entomology?

21 A. Yes, he's certainly an authority.

22 Q. And, I take it, that sometimes  
23 experts differ, and that even if he differed with you  
24 on a certain matter you would nonetheless respect his  
25 opinion?

1 A. Yes. Yes, I would.

2 Q. Thank you. We talked a little bit  
3 yesterday about accountability and let's see if when we  
4 talk about accountability we are talking about the same  
5 thing.

6 I see it as perhaps being -- in the  
7 context of government and the public, telling the  
8 public what was done, why you did it, what happened,  
9 the result in this case, and then indicating whether  
10 they got their money's worth, and think about this in  
11 the context of defoliation results.

12 Would that be a description of how one  
13 would be accountable or fulfill the obligation of being  
14 accountable?

15 A. Those are certainly all elements of  
16 it, in my view.

17 Q. All right. Let me just give you a  
18 hypothetical situation and I want to describe it to you  
19 and then ask you whether -- or how one would be  
20 accountable in this situation.

21 A spray program had taken place,  
22 insecticides, and the defoliation preservation achieved  
23 was 20 per cent, and I take it you would agree that you  
24 would have to tell the public that you got 20 per cent  
25 to be accountable?



1 A. Yes.

2 Q. You would have to tell the public  
3 whether 20 per cent was good, fair or indifferent and  
4 perhaps, more importantly, explain why that was good  
5 fair or indifferent?

6 A. To the best of your ability.

7 Q. Right. And if you could explain that  
8 to them in a way which was understandable, in that  
9 circumstance do you believe that you would have met  
10 your obligation to be accountable?

11 A. Yes, I think largely that's it. It  
12 is a matter of conveying to the public the degree of  
13 success you had in meeting the stated objective in your  
14 program.

15 Q. Now, you added something to the  
16 equation at the end of your answer that I didn't  
17 include in my hypothetical.

18 In my hypothetical I indicated that you  
19 had obtained 20 per cent and you explained what that  
20 meant, whether it was good and explained why it was  
21 good or bad. I suggest to you that you could do that,  
22 that would fulfill your obligation to be accountable  
23 and that it would not be necessary to add into the  
24 equation a preset standard, such as 60 per cent.

25 I would suggest to you that by

1 introducing a preset standard of 60 per cent all you  
2 would be doing is complicating the job unnecessarily,  
3 making it more difficult to explain to the public  
4 whether what you got was good, bad or indifferent?

5 A. Well, I really can't agree with you  
6 on that, Mr. Freidin.

7 Q. Okay.

8 A. It seems to me, having had fairly  
9 broad experience over the last 10 or 12 year with  
10 forest to forest management in both Ontario and New  
11 Brunswick, it struck me as rather peculiar that in most  
12 of the activities in forestry in those province, and  
13 indeed in other provinces across Canada, we have moved  
14 well forward during the 80s with respect to setting set  
15 standards for all types of forestry practices, we've  
16 set targets and objectives for regeneration, for  
17 tending, for harvesting, all of those have numbers  
18 attached to them. They indicate that the manager is  
19 trying to achieve some type of quantitative objective  
20 or standard.

21 The exception to that, quite frankly, has  
22 been protection spraying and it seems peculiar to me  
23 that we have a situation right now in Ontario where, in  
24 fact, the Ministry requires that nursery growers, for  
25 example, achieve certain stock production standards,

1       they are measured, they have to achieve those standards  
2       and, in fact, success or failure is publicly reported.  
3       They have to -- the licensees, the FMA holders have to  
4       achieve the specified regeneration standards. The  
5       results of that are reported publicly through the FMA  
6       five-year review, they have to achieve tending  
7       standards, they have to achieve utilization standards,  
8       they have to achieve standards with respect to roads.  
9       The one exception to that, which seems very peculiar to  
10      me, is that we don't have a similar standard that's  
11      applied with respect to insect control operations.

12               Q. Okay. I'm not going to stick with  
13      this one too much longer. Would you agree that it  
14      might very well be that there might be a need for a  
15      standard for the professionals to meet, but the manner  
16      in which you report to the public might very well be  
17      better done not using the same numerical standards,  
18      percentages and phraseology which is used within the  
19      profession?

20               A. Oh, I wouldn't have any difficulty  
21      with that at all, Mr. Freidin. I recognize that some  
22      of this is very complex. There is no particular reason  
23      to require, for example, that we talk to the public in  
24      terms of per cent defoliation of current growth of  
25      balsam fir and spruce.



1 I think what I attempted to show in Table  
2 14 was an illustration of how you might approach that.  
3 If you had a preset standard internally which you  
4 accepted professionally, then you could simply  
5 calculate the rate of success at achieving the standard  
6 and all you're talking about is whether you had a 25  
7 per cent success rate or whether you had a 75 per cent  
8 success rate.

9 Q. Okay.

10 A. To me that's substantial improvement  
11 over statements to the effect the spraying program was  
12 generally good or generally satisfactory.

13 Q. All right. Is the Forest Insect and  
14 Disease Survey Unit of Forestry Canada qualified to  
15 conduct and report the results of insect surveys?

16 A. Yes, that's part of their mandate.

17 Q. Is the Forest Insect and Disease  
18 Survey Unit of Forestry Canada qualified to interpret  
19 these results?

20 A. The results of the surveys?

21 Q. Yes.

22 A. I guess I would have to ask you to  
23 elaborate somewhat on interpretation. Do you have any  
24 particular scope on interpretation? I don't know  
25 whether you have or not.

1                   Q. Well, to explain what the particular  
2 percentages of foliage protection mean, what the  
3 significance of the various percentages might be?

4                   A. Well, I don't -- my own understanding  
5 and through my own experience, Mr. Freidin, I would  
6 say, without any attempt to convey criticism at all, is  
7 that the expertise of the Forest Insect and Disease  
8 Survey is insects and diseases, not forest growth.

9                   It seems to me that professionals with  
10 forestry training, forest managers, particularly  
11 silviculturalists, growth and yield specialists are --  
12 certainly have to be brought into that interpretation  
13 if we are trying to convey a message that -- I'm sorry,  
14 convey an interpretation of the packets of defoliation  
15 on tree and stand growth.

16                  Q. Thank you. Would you turn, Dean  
17 Carrow, to page 171 of the witness statement. Now, my  
18 notes of your evidence the other day indicate that you  
19 stated that since 1985 B.t has been used at double or  
20 triple the application rate for gypsy moth, that this  
21 is not usual and usually a single application is  
22 sufficient.

23                  Is that the same point that you are  
24 making here in last paragraph on page 171, in part?  
25 You were speaking to this particular portion of the

1 evidence?

2 A. Yes, that's right, and just to  
3 elaborate, that if you look historically at forest  
4 insect control programs, in the great majority of cases  
5 when B.t. is used, it's used at a single application --  
6 or with a single application.

7 Q. Can we agree, Dean Carrow, that in  
8 Canada, Ontario is the only jurisdiction that protects  
9 foliage from gypsy moth?

10 A. The only provincial jurisdiction?

11 Q. Yes.

12 A. I have no reason to disagree with  
13 that, Mr. Freidin. I think that's probably the case.  
14 I'm not familiar exactly with what Quebec is doing  
15 these days and so on but...

16 Q. Joe Churcher of the Ministry of  
17 Natural Resources in Ontario advises me that in Ontario  
18 it is common to have two applications for foliage  
19 protection for gypsy moth. Are you able to -- do you  
20 dispute my information?

21 A. Well, it's certainly -- gypsy moth is  
22 a relatively new problem in Ontario, Mr. Freidin. The  
23 first spraying carried out by the Ministry, as I  
24 understand it, was 1982. So we are looking at a  
25 relatively recent problem that's developed in Ontario



1 with respect to pest management, certainly under the  
2 provincial jurisdiction. The records show quite  
3 clearly that since 1986, I guess, that in fact double  
4 and sometimes triple applications have been used.

5 Q. Then if in fact we agree that it is  
6 common to have two applications for foliage protection  
7 for gypsy management in Ontario, what was the  
8 purpose -- or can you indicate what the purpose was for  
9 indicating in your evidence that usually a single  
10 application is sufficient, and you were speaking  
11 specifically to gypsy moth?

12 A. Well, I think the evidence says  
13 single application is usually applied for insect  
14 control, not for gypsy moth control.

15 Q. All right. So you weren't suggesting  
16 there was anything wrong about applying more than one  
17 application of B.t for gypsy moth?

18 A. No, not at all, Mr. Freidin. I think  
19 the intent of that statement was just to show that in  
20 that particular circumstance where you are dealing with  
21 a pest that has the particular habits of gypsy moth on  
22 that particular forest type, that in fact adequate  
23 protection has been achieved in other jurisdictions in  
24 the past with the use of a material called carbaryl or  
25 Sevin with a single application quite effective, both

1 for outbreak control and foliage protection.

2 In fact, in order to achieve adequate  
3 levels of protection with the gypsy moth in southern  
4 Ontario, the Ministry has found that they have to put  
5 that material on twice or sometimes three times, and in  
6 the context of forest insect control that's a very  
7 unusual situation--

8 Q. All right.

9 A. --to have to put on a double and  
10 triple application of B.t.

11 Q. And to put on two or three  
12 applications of an insecticide is unusual and you are  
13 indicating that because -- in the case of B.t. you have  
14 to put on two or three, whereas if you use the chemical  
15 one is usual? That's the point you are making?

16 A. Yes, as a comparable spray regime  
17 given gypsy moth in a hardwood forest, if you want,  
18 which is what it infests, the treatment that has been  
19 historically used is a single application of Sevin and  
20 that generally would provide sufficient control and  
21 protection, but the alternative to that in Ontario, in  
22 view of the suspension on the use of chemicals, has  
23 been a double or triple application of B.t.

24 Q. Thank you. You indicated in your  
25 evidence, Dean Carrow, that it is generally recognized

1       that the protection of white spruce is more difficult  
2       to achieve than the protection of balsam fir, and I  
3       just ask whether I am correct that this is a true  
4       statement regardless of whether you are using chemicals  
5       or B.t?

6                   A. I would say it's partially true with  
7       respect to chemicals, Mr. Freidin. I explained the  
8       other day that the manager is faced with a problem with  
9       respect to phenology here, largely, and the relative  
10      expansion of the foliage on spruce and fir at one point  
11      in time and the exposure of the spruce budworm larvae,  
12      and the manager has to make a very difficult choice  
13      here; he has to decide whether he is primarily trying  
14      to protect balsam or primarily trying to protect spruce  
15      and the timing of that application should be such as to  
16      provide protection on one or other of those species.

17                   The thing that gives chemicals a slight  
18      advantage or somewhat of an advantage, in my view, is  
19      that some of the chemicals at least do have a localized  
20      systematic action; in other words, they are absorbed  
21      into the needles and they remain within the needles, so  
22      that the insects feeding on those needles, even though  
23      they have not contacted the spray directly from the  
24      aircraft, if you want, in fact ingest some of that  
25      chemical that has been absorb into the needles. That

1 does not happen with B.t.

2 Q. All right. As I hear you, you are  
3 addressing the question as to how B.t and chemical  
4 perhaps act differently in terms of the insect.

5 What I'm getting at is, as a general  
6 proposition, whether you are using chemical or whether  
7 you are using B.t, is it true that the protection of  
8 foliage on white spruce is more difficult to achieve  
9 than protecting foliage on balsam fir?

10 A. Yes, I would agree with that.

11 Q. Thank you. I am going to try these  
12 questions for you, Dr. McCormack. I think we agree  
13 that tending can be done through manual means, that  
14 really it is not necessary to use chemicals all the  
15 time, there are circumstances in which you can do  
16 tending through manual means?

17 DR. McCORMACK: A. That's a difficult  
18 question to answer because there are so many  
19 qualifications that might relate to specific cases  
20 where manual tending might be considered.

21 It is in most cases the situation that  
22 manual tending is carried out because of some other  
23 condition apart from the vegetation that requires that  
24 particular procedure.

25 Q. Without getting into a lot of detail,



1 can we agree that precommercial thinning is a form of  
2 tending?

3 A. I would agree with that.

4 Q. And that involves, in many cases, the  
5 manual felling of trees?

6 A. That's correct.

7 Q. Okay. Would you agree with me that  
8 sometimes it is advisable silviculturally to engage in  
9 the thinning of a stand after the stand has become free  
10 to grow?

11 A. Yes.

12 Q. And would you agree with me that that  
13 need for thinning in a stand which is already free to  
14 grow can arise not only in relation to a plantation,  
15 but in relation to a fire origin stand that's being  
16 managed?

17 A. Yes.

18 Q. Could you list for me the benefits of  
19 engaging in that kind of an activity?

20 A. By that you mean thinning after the  
21 stand has reached a free to grow condition?

22 Q. Yes.

23 A. Is that correct?

24 Q. That's right. In what circumstance  
25 would you do it and why and what benefits would you be

1           trying to achieve?

2                           A.   At that stage of the game we begin to  
3           look more at considerations of what I would refer to as  
4           a classical concept of thinning.  At that stage of the  
5           game, a forester managing for timber directs attention  
6           toward specific crop trees on which you want to  
7           concentrate growth or improve the quality of the stand  
8           by selecting trees as crop trees which have better  
9           qualities as one projects them as merchantable trees  
10          and you want to concentrate the growth on those trees.

11                          In the process, recognizing that we are  
12          dealing with this dynamic condition which has now been  
13          described many time, that even though at one point  
14          stocking might be good and the site fully occupied, it  
15          doesn't take a very long period of time before that  
16          site could become over occupied.  You are getting some  
17          competition between species -- between trees of the  
18          same species, being a crop species, and it could be  
19          advantageous to redirect the resources of the site  
20          through selected potential crop trees that are chosen  
21          for a variety of reasons.

22                          Q.   Is a benefit of engaging in this type  
23          of thinning the reaping of merchantable stems at an  
24          earlier point in time than would otherwise would be the  
25          case?

1 A. It could be.

2 Q. And, Mr. Smith, I understand jack  
3 pine is a species where it is not uncommon to want to  
4 thin a stand even after it has been become free to  
5 grow?

6 MR. SMITH: A. That's correct.

7 Q. Dr. McCormack, if one is concerned  
8 about a wood supply for industry and you see a dip 90  
9 years in the future, if you plant today and tend that  
10 plantation, you are dealing with trees that have a  
11 rotation of 90 years or less, that plantation is going  
12 to address that problem, fair conclusion?

13 DR. McCORMACK: A. It is.

14 Q. If, on the other hand, you have a  
15 wood supply dip, a dip in the supply that you are  
16 concerned about, and that dip is forecasted for 20 or  
17 25 years into the future, would you agree with me that  
18 planting today is not going to affect your ability to  
19 meet that particular problem?

20 A. In most cases it would not.

21 Q. Okay. If we are talking about jack  
22 pine of 70 years rotation it certainty wouldn't and if  
23 we are talking about spruce of 90 years it certainly  
24 wouldn't?

25 A. Well, Mr. Freidin, from my vantage

1 point, looking at developments in intensive  
2 silviculture, I am a little more optimistic about what  
3 we can do with trees than may exist in the common line  
4 of thinking. That's why I hesitate a little bit on  
5 that one.

6 Q. All right. But dealing with the  
7 technology that we have today, you would agree with me  
8 that we can't plant a jack pine today and expect to  
9 harvest it -- have a merchantable stand in 20 or 25  
10 years?

11 A. 20 to 25 years, I would not want to  
12 count on those trees.

13 Q. Sure. But would you agree that if in  
14 fact you forecasted that dip 20 or 25 years in the  
15 future, that going into a more mature stand and  
16 thinning it might have the possibility of addressing  
17 that wood supply problem because we've already agreed  
18 that one of the effects of thinning would be the  
19 reaping of merchantable stems at an earlier age?

20 A. I agree with that.

21 Q. Thank you.

22 A. Of course, you start to have to  
23 consider merchantable standards, but assuming  
24 reasonable conditions, yes, I agree with that.

25 Q. Okay, thank you. I am not sure who I



1           should go to -- terms and conditions. Perhaps, Mr.  
2           Tomchick, you could turn to page 209 and this may be a  
3           question that your counsel should answer as opposed to  
4           you, it is somewhat legal in nature.

5                           I refer to the last full paragraph on  
6           page 209 where it indicates that:

7                           "The Industry is most concerned that  
8                           terms and conditions proposed by MNR make  
9                           no provision specifically..." you say,  
10                          for approval by the Board of the use of  
11                          authorized chemicals."

12                         It has been the Ministry's position that  
13           the use of -- or chemicals which are used -- pardon me,  
14           the insecticides which are used in Ontario already have  
15           been approved for use, recognizing of course that this  
16           Board has the jurisdiction to put limitations on their  
17           use or to decide whether they want to accept the use of  
18           those chemicals.

19                         I am just wondering, Ms. Cronk, would it  
20           be correct -- do you have any objection if we change  
21           the word approval to acceptance?

22                         MS. CRONK: None.

23                         MR. FREIDIN: Thank you.

24                         Q. Mr. Stanclik, you and others were  
25           asked about the level of herbicide spraying that is now

1 going on on your particular FMAs?

2 MR. STANCLIK: A. Yes.

3 Q. Most of you were indicating you  
4 thought it had stabilized and that it wasn't going to  
5 dramatically increase or dramatically decrease?

6 A. That's correct.

7 Q. If more FMAs are created and more NSR  
8 lands are therefore brought into the picture, could  
9 that situation change?

10 A. Yes, it would seem appropriate that  
11 the level of tending could go up to correspond with the  
12 level of activities taking place on the FMAs in regards  
13 to planting.

14 Q. And on those FMAs that have not --  
15 exist today but have not in fact treated all of their  
16 NSR lands, have not fully met their NSR obligations  
17 under the FMA, if the Minister decided tomorrow that  
18 there should be a push to get all those lands back into  
19 production, there could be an increase in the amount of  
20 the herbicide application as a result of that as well?

21 A. That's correct.

22 Q. Thank you. Sticking with herbicides,  
23 Dr. McCormack. There was some cross-examination of the  
24 Ministry's panel dealing with pesticides quite some  
25 time ago and the question arose as to whether Maine had

1 any buffer zones for the application of herbicides and,  
2 if so, how they compared in terms of their size to  
3 those in Ontario.

4 Are you able to provide any information  
5 in that regard?

6 DR. McCORMACK: A. I can summarize a  
7 situation in the State of Maine as it exists today--

8 Q. Please.

9 A. --and for the coming spray season.  
10 We have a program that suggests that applicators have a  
11 drift management plan and in such -- or in that program  
12 there are what are termed guidelines for no spray  
13 buffer zones around sensitive areas.

14 I emphasize that these are guidelines  
15 only, they are strongly encouraged but there are no  
16 regulations to hold someone to these dimensions.

17 Q. Okay.

18 A. They are broken down by two  
19 dimensions, a Class A and class B, Class A meaning that  
20 a spray is applied from a height which exceeds 20 feet  
21 or approximately six metres.

22 Q. Dr. McCormack, I'm not really too  
23 concerned about all technical details, what I'm  
24 concerned about is, regardless of all the technical  
25 details and the heights and droplet sizes and whatever

1           it may be, I am interested in the width. What's the  
2           range?

3                   A. I am sorry, Mr. Freidin, it varies  
4           according to these dimensions.

5                   Q. All right, but I'm not interested in  
6           knowing the various details, I would just like to know  
7           what the range is? What's the maximum width and what's  
8           the minimum width of the buffers?

9                   A. I guess I'm reluctant to address it  
10          under those conditions.

11                  Q. All right. That's fine, that's fine.  
12          If you're reluctant to do it; go ahead and do it your  
13          way.

14                  A. I'm sorry to be difficult here, but  
15          realistically buffers relate to the characteristic of  
16          the spray pattern and I'll describe the maximum and  
17          I'll describe the minimum to you.

18                  The maximum is for a fine mist, meaning  
19          droplets that are less than 150 microns VMD - volume  
20          medium diameter is the VMD - released from heights in  
21          the air that exceed 20 feet. In that case the  
22          prescribed -- the guideline buffer is 300 feet or 91  
23          metres.

24                  The other end -- the other extreme is for  
25          coarse mist where the droplets exceed 500 microns VMD



1 and they are released from a height which is less than  
2 20 feet and, in that case, the buffer is 25 feet or 8  
3 metres.

4 Q. Mr. Ferguson, I'm going to go to you  
5 because you are perhaps the blueberry picker on the  
6 panel.

7 A. That's distinguishing.

8 MS. CRONK: Well, that's not perhaps  
9 technically correct, it's just that he volunteered to  
10 give that part of the evidence due to --

11 MR. FREIDIN: No. Well, I apologize if  
12 I've offended anybody by leaving them out.

13 Q. During the cross-examination by Ms.  
14 Kleer she posed a question which I recorded as being:  
15 In your opinion, if land were used yearly  
16 by native people for subsistence berry  
17 picking, would you put a buffer around  
18 it?

19 And from the beginning of a stand to the  
20 stand at rotation, will blueberries exist within that  
21 stand through the entire time, year after year after  
22 year, right through to rotation.

23 MR. FERGUSON: A. In my opinion, no.  
24 There may be some blueberries present in a mature  
25 forest, but as the stand closes they tend to be far

1 fewer and often, although the plants are there, there  
2 may be no berries on them or very minimal berries.

3 The prime conditions for blueberries  
4 producing fruit are in the early successional stages or  
5 the early years of regenerating stands, I would say,  
6 basically until the crown closure is achieved.

7 Q. Okay. How are you on raspberries,  
8 Mr. Ferguson? Is it any different for raspberries?

9 A. Yes, I would say there were similar  
10 conditions for raspberries. Again, early successional  
11 stages of a forest the raspberries are present and as  
12 the crowns close the raspberries disappear as well.

13 Q. Are you able to confirm that that's  
14 the way things work, Dr. McCormack?

15 DR. McCORMACK: A. I would agree with  
16 that in a general sense, sure.

17 Q. Thank you.

18 MADAM CHAIR: Excuse me, Mr. Ferguson.  
19 We are still talking about quite a long period of time  
20 though, from harvest until the crown closes?

21 MR. FERGUSON: Yes. It would vary from  
22 site to site, but I would say that you are probably  
23 talking over a period of possibly up to 15 years.

24 MR. FREIDIN: Q. Can we go to you, Dr.  
25 McCormack, the moose habitat guidelines, Exhibit 310.

1 I'm not even sure whether you have to look at them.

2 DR. McCORMACK: A. I have a copy.

3 Q. Have you got them there? You were  
4 referred to page 31.

5 MR. FREIDIN: I don't know whether it is  
6 necessary, Madam Chair, to find this, it's just I  
7 wanted the witness to know where I was coming from.

8 Q. There was comment there that you  
9 disagreed with, suggested that perhaps herbicides being  
10 used for stand conversion sterilizing the site in some  
11 way, and you took objection to that and you indicated  
12 why that was the case.

13 It's my understanding that the usual  
14 meaning of a stand conversion is where you take a  
15 stand, you don't change the species there on the stand,  
16 rather what you're doing is you change which species  
17 have dominance in the stand. Take a poplar stand which  
18 the poplar may be dominant, you end up turning it into  
19 a jack pine stand, so it's now a jack pine stand but  
20 there is still poplar there, but they're not in a  
21 dominant position anymore.

22 DR. McCORMACK: A. The proportions  
23 change, yes.

24 Q. Right.

25 A. With that qualifier, I agree with

1 your statement.

2 Q. Okay. We agree it doesn't involve  
3 the disappearance of species?

4 A. Please say that again?

5 Q. Not necessary for me to pursue that.  
6 A suggestion was made by Mr. Castrilli - and Mr.  
7 Ferguson you may be able to help here - a suggestion  
8 was made by Mr. Castrilli that there was a short-coming  
9 in the evidence of this panel because there was no  
10 reference to stand conversion which involved the use of  
11 herbicides. Do you recall him making that suggestion?

12 MR. FERGUSON: A. Yes, I recall that.

13 Q. Yes, all right. And you were a  
14 witness on Panel No. 8.

15 A. That's correct.

16 Q. And there was case study there  
17 involving Abitibi-Price Lakehead?

18 A. Correct.

19 Q. Am I correct that Mr. Squires  
20 described in some detail a stand conversion which  
21 involved heavy site prep using mechanical equipment,  
22 chemical site prep and chemical tending?

23 A. That's my recollection, yes.

24 Q. And am I correct that Mr. Squires'  
25 evidence was that in that case that the vegetation



1           today was similar in species to that present in the  
2           stand prior to the intensive silvicultural activity  
3           that I have described?

4                   A.   Yes.   I believe as Mr. Squires put  
5           it - and I can't quote his exact words - but the  
6           species present had not changed significantly, although  
7           their relative proportions in the stand may be  
8           different.

9                   Q.   Thank you.

10                  A.   Perhaps Mr. Smith would be more able  
11           to speak to that particular area than I am.

12                  Q.   Well, I have Mr. Squires' evidence,  
13           if you --

14                  MR. SMITH:   A.   I support that as well.

15                  Q.   Okay.   Dean Carrow, have you got  
16           Exhibit 635, that's the Minister's release?

17                  MR. CARROW:   A.   Yes, I have, Mr.  
18           Freidin.

19                  Q.   I want to go back there and ask you a  
20           question, perhaps as much for my benefit as anyone's,  
21           and you will understand what I mean in a minute.   Page  
22           3.

23                  MS. CRONK:   Sorry, could I have a minute,  
24           Mr. Freidin.   Thank you very much, I'm sorry.

25                  MR. FREIDIN:   It's short, Madam Chair.

1                   Q. When I was cross-examining you  
2 yesterday on this, Dean Carrow, I was primarily  
3 interested in putting before the Board the certain  
4 information as to whether chemical insecticides are  
5 used from the ground.

6                   A. Yes.

7                   Q. And in my eagerness to do that I made  
8 a comment, something along the line that: Let's not be  
9 concerned about this document, or it really doesn't  
10 matter what it says. I wouldn't want my client to  
11 think that I really meant that, and I only did so, as I  
12 said, in haste to be of assistance to the Board.

13                  MS. CRONK: Is this a question or a  
14 confession?

15                  MR. FREIDIN: No. I told you, it's a  
16 confession.

17                  Q. But take a look at the paragraph I  
18 referred to here, the passage where it said:

19                         "In a small number of situations we will  
20 be using ground treatment with other  
21 insecticides as usual."

22                  Do you remember that passage on page 3?  
23 Just the end of the first paragraph, "Mr. Harris  
24 said..."

25                  MR. CARROW: A. Page -- maybe I don't

1 have the right page, Mr. Freidin. Page 3?

2 Q. Yes.

3 A. Oh, okay, it's marked page 4 in mine.

4 Q. No, I'm sorry.

5 A. All right, I have it.

6 Q. That little passage. It's my  
7 information that this passage has been interpreted by  
8 Ministry of Natural Resources staff to permit the  
9 ground application of chemical insecticides. Will you  
10 agree with me that the words support that  
11 interpretation?

12 A. Yes, that particular quote does,  
13 that's correct.

14 Q. Thank you. I have a number of  
15 questions about terms and conditions. I think some of  
16 them can more properly be dealt with by your planning  
17 panel, but I want to make sure that if they aren't that  
18 they're dealt with here.

19 Mr. Tomchick in relation to MNR's term  
20 and condition No. 13 which deals with areas of concern,  
21 it says:

22 "The approach and planning requirements  
23 for the development of specific  
24 operational prescriptions for tending in  
25 areas of concern are accepted."

1                   And then it lists certain things, and you  
2                   indicated that if by tending the Ministry meant block  
3                   boundaries or MOE buffers then you supported the term  
4                   and condition. That's what I understood you to have  
5                   said.

6                   MR. TOMCHICK: A. Well, that's not what  
7                   I meant, not by tending, but by considering the value  
8                   will use mitigating measures, or consider mitigation  
9                   measures.

10                  Q. All right. If I wanted to  
11                  investigate whether in fact through timber management  
12                  planning modifications to tending could be imposed  
13                  other than for buffers, is that something I should deal  
14                  with -- hold off and ask Panel 10?

15                  A. I would prefer; however, I can  
16                  comment on that. Those would be identified by the  
17                  planning team and dealt with at that -- during the  
18                  planning process.

19                  Q. Okay. That's fine. In order to save  
20                  time, I'll leave that for Panel 10.

21                  Mr. Bunce, Ministry of Natural Resources  
22                  term and condition 39. Am I correct that Industry  
23                  agrees that for each spray program for herbicides  
24                  conducted by or on behalf of the FMA holder on FMA  
25                  lands that they will be documented in accordance with



1 Exhibit 641 which is the Guidelines for the Preparation  
2 of Implementation Manuals for the Aerial Application of  
3 Herbicides in Ontario?

4 MR. BUNCE: A. That is my understanding,  
5 yes.

6 Q. And can we agree that by doing that  
7 Industry will be producing for each spray program  
8 documentation which is described in 39(a) and (b), term  
9 and condition 39(a) and (b)?

10 A. The project description and an  
11 operational plan, yes.

12 Q. The information --

13 A. Yes.

14 Q. All the information produced there  
15 will in fact be produced by Industry?

16 A. Yes.

17 Q. Thank you.

18 Dean Carrow, a few questions in relation  
19 to MNR term and condition 38 which is dealing with the  
20 aerial application of insecticides and your evidence  
21 about bump-up.

22 MR. CARROW: A. Yes.

23 Q. Now, you indicated your views on the  
24 desirability of having a bump-up at all in relation to  
25 this matter, and I don't wish to question you on that,

1           that it should be taken as agreement with what you've  
2           said, but it's other parts of your evidence I want to  
3           clarify.

4                       I think you indicated in your evidence  
5           that it was your understanding that a bump-up request  
6           in relation to an aerial insecticide program could  
7           occur within the last 30 days or in the 30 days right  
8           up to the date that you would want to implement your  
9           spray program. Is that what you said?

10                   A. That's my understanding.

11                   Q. All right. And I guess you have a  
12           concern about that because if they could put the  
13           bump-up on the last day and then the Minister of the  
14           Environment had to sort of think about it, by the time  
15           the Minister of the Enviornment thought about it it  
16           would be too late to go spraying?

17                   A. That's right, that opportunity would  
18           be lost for the year.

19                   Q. Right. So assuming for the moment  
20           that there is a bump-up provision in relation to  
21           insecticides, I take it that your main concern would be  
22           to ensure that if it took the Minister of the  
23           Environment -- if the Minister of the Environment had  
24           30 days to make the decision, that you would want the  
25           last opportunity for bump-up of that program to be at

1           least 30 days before the day you wanted to spray.

2           Would that be your main concern?

3                   A. Well, I wouldn't want to get into a  
4           debate about the number of days, Mr. Freidin. The  
5           point is that there is a very narrow opportunity with  
6           respect to time period in any given year in which to  
7           carry out a spray program, and usually that is in the  
8           order of two to three weeks.

9                   I don't care how far ahead the bump-up is  
10          requested or when the decision is made, but if in fact  
11          the decision is made after that two to three-week  
12          period, it's of no value.

13                  Q. All right. So whatever planning  
14          system is put in place, it should be one which makes  
15          sure that that doesn't happen, that the decision is  
16          held up right through the spray window?

17                  A. Well, that's imperative.

18                  Q. Okay, thank you.

19                  A. But I think, as I have testified  
20          before, Mr. Freidin, it seems to me as well that in  
21          looking -- it's a rather peculiar situation in the  
22          sense that there's so many regulatory controls already  
23          in place with respect to insecticide application in the  
24          forest environment, and in fact the Minister of the  
25          Environment permit itself for light aerial spraying, in

1 my view, comes very close to an individual assessment  
2 on a project.

3 Q. And I understand your view on that  
4 and you were very clear as to why you hold that  
5 opinion.

6 Dr. McCormack, red alder in, is it Oregon  
7 you talked about?

8 A. The earlier discussion concerned red  
9 alder species grown in Oregon, yes.

10 Q. All right. A couple of very short  
11 questions, you don't need your articles. We've heard  
12 in this hearing about alder in the area of the  
13 undertaking. Can we agree that red alder in Oregon is  
14 something quite different than the alder that we refer  
15 to as competition in Ontario?

16 A. It's more than that, it's something  
17 very different.

18 Q. And in short, there it's a tree and  
19 here it is brush?

20 A. A good quick comparison.

21 Q. Okay. And it's a hardwood tree,  
22 alder?

23 A. Definitely is a hardwood tree.

24 Q. In Ontario we've heard how hardwoods  
25 when they are cut, particularly poplar and birch - I'll



1 just limit my comments to those two - that if you cut  
2 them they sucker and they produce all kinds of shoots  
3 and competition for crop trees.

4 And I take it from your evidence that the  
5 hardwood tree alder in Oregon doesn't act anything like  
6 that when you cut it in the fashion described in those  
7 articles?

8 A. That's correct. It's relatively  
9 vulnerable to the types of treatments described.

10 Q. Vulnerable meaning, I think the  
11 article said they died the next --

12 A. Manual tending that results in  
13 acceptable levels of sprouting in terms of regrowth,  
14 acceptable from the standpoint of benefit to the crop  
15 trees.

16 Q. Right, thank you.

17 A. I hope that's clear.

18 Q. And Mr. Bob Campbell that you  
19 referred to during your evidence, I take it, was that  
20 Dr. Campbell who was a witness for the Ministry of  
21 Natural Resources in Panel 12 and 13?

22 A. The same person.

23 Q. Thank you.

24 MR. FREIDIN: My system here.

25 MR. MARTEL: I thought you were finished.

1 MR. FREIDIN: No, no. I'm not finished  
2 until I get rid of my black clips, Mr. Martel.

3 Oh yes. I would have been --

4 MR. CHURCHER: Yes, you would have.

5 MR. FREIDIN: Yes. I would have been in  
6 deep trouble if I didn't ask this question.

7 Q. Dean Carrow, have you read the  
8 evidence of Mr. Churcher in Panel 12/13 lately, in  
9 particular his evidence where there was reference to  
10 dealing with foliage protection.

11 MR. CARROW: A. Yes, I have. I was  
12 present at the hearings and I read his evidence  
13 recently.

14 Q. All right. You made a comment about,  
15 in your evidence, that Mr. Churcher had indicated that  
16 there was a standard in Ontario for foliage protection  
17 between 25 and 75 per cent.

18 And I suggest to you, Dean Carrow, that  
19 if you read Mr. Churcher's evidence in total that he  
20 did not say that Ontario had a standard for foliage  
21 protection between 25 and 75 per cent, but rather he  
22 said very clearly that there was no standard but if  
23 there had to be one - and he said that in  
24 cross-examination from Ms. Cronk - if there had to be  
25 one it would be a point somewhere between 25 and 75 per

1 cent.

2 MS. CRONK: Well, Madam Chair, I don't  
3 agree that that was the evidence, and if Mr. Freidin is  
4 going to cross-examine on this point he should put the  
5 transcript in front of the witness.

6 MR. FREIDIN: All right. Well, can you  
7 take out Volume 113, please, and turn to page 18834.

8 MS. CRONK: Sorry, page what?

9 MR. FREIDIN: Starting at 18834.

10 Q. Now, Dean Carrow, perhaps -- can you  
11 agree with me without looking at the transcript?

12 MR. CARROW: A. No, I think I better  
13 look at the transcript if we're getting into this kind  
14 of discussion.

15 Q. All right. At page 18834 line 20,  
16 did Mr. Churcher not say:

17 "A. In Ontario we have no such stated  
18 standard that we are trying to attain a  
19 certain level of foliage production."

20 A. That's right.

21 Q. That's probably a typo, should be  
22 foliage protection.

23 A. Right.

24 Q. Would you turn to the next page,  
25 please. And the question which starts on line 11, the

1 question:

2 "Q. Looking at the general issue from  
3 your perspective of how you assess the  
4 adequacy of any particular treatment for  
5 spruce budworm, again looking at the  
6 defoliation side, is there a standard  
7 below which you would conclude that the  
8 treatment had been inadequate or  
9 unsuccessful."

10 And there was an answer there, and then  
11 your counsel, the next page, said:

12 "Q. Well, is it always relative?"

13 And Mr. Churcher:

14 "A. Yes, it's always relative."

15 And then she says at line 18 on page

16 18836:

17 "Q. Well, why is there no standard in  
18 Ontario, or why is there not a range  
19 of standards?"

20 And Mr. Churcher says at line 23:

21 "A. To my knowledge there has never been  
22 any scientific studies to determine what  
23 that standard should be."

24 So far he certainly hasn't indicated that  
25 there's a standard; has he? In fact he's done just the



1 opposite, he's saying there is no standard in Ontario  
2 of that type?

3 A. Yes, up to this point in the  
4 evidence.

5 Q. Okay. Up to this point?

6 A. Mm-hmm.

7 Q. Go to page 18838:

8 "MS. CRONK: Q. All right. What I'm  
9 suggesting to you is that somewhere in  
10 that range of results from zero  
11 difference between the treated and the  
12 untreated to a hundred per cent  
13 difference between the treated and the  
14 untreated is there not, in your  
15 professional experience, a point at which  
16 it can be said that the treatment has not  
17 been effective for spruce budworm?"

18 And he said:

19 "A. Yes, and I would say that that point  
20 lies somewhere between 25 per cent and 75  
21 per cent."

22 And I suggest to you that what happened  
23 there was Ms. Cronk was just saying: Come on, Mr.  
24 Churcher, somewhere in the range there has got to be a  
25 standard, a point somewhere, and Mr. Churcher after

1 repeatedly saying there was no standard in Ontario,  
2 quite clearly up to that point, said: Okay, I'd say  
3 that point lies somewhere between 25 and 75 per cent.

4 And I suggest to you that all Mr.  
5 Churcher was saying was something very similar to what  
6 you've in your evidence, that if you have to have a  
7 standard, you have to pick a point, and the point lies  
8 somewhere between 25 and 75 per cent.

9 Now, that's how I interpret that.

10 MS. CRONK: My friend has to go to the  
11 next page, Madam Chair, starting at line 16.

12 MR. FREIDIN: Q. Do you agree that I'm  
13 correct so far? This is a big mystery.

14 DEAN CARROW: A. Based on what's  
15 recorded in the proceedings, Mr. Freidin, I would agree  
16 and I think, you know, we're talking simply about  
17 interpretation of what a person means or what a person  
18 is implying.

19 Q. All right. So so far you agree that  
20 what I've read so far can be interpreted the way I have  
21 interpreted it?

22 A. Yes.

23 Q. Thank you.

24 A. Up to that point, that's right.

25 Q. Okay, now let's go to page 18839,

1 line 16, the question:

2 "Q. I was asking you whether or not if  
3 25 per cent defoliation protection was  
4 achieved in Ontario as a norm that would  
5 be recorded as a successful treatment  
6 against spruce budworm. I'm really  
7 asking you: Is it realistic to give me a  
8 range as broad as 25 to 75 per cent and  
9 suggest that 25 per cent would be  
10 considered a successful protection  
11 level?

12 A. In my opinion, yes, that is  
13 reasonable?

14 Q. And anything in between?

15 A. Yes."

16 Q. Now, is that the portion of the  
17 evidence that you have taken and have you focused on  
18 that one passage and then said Mr. Churcher has  
19 therefore stated that there is a standard in Ontario of  
20 foliage protection between 25 and 75 per cent?

21 MS. CRONK: Well, Madam Chair, I'm not  
22 sure this is entirely fair to the witness,, the whole  
23 point is simply this, that Mr. Freidin has his  
24 interpretation of the exchange that occurred between  
25 Mr. Churcher, I have one as well, it's been referred to

1 in the statement of evidence by the Industry. It's a  
2 matter ultimately for argument before the Board and,  
3 frankly, at this point I think we are talking  
4 semantics.

5 The evidence that Dean Carrow gave  
6 related to whether a range of 25 to 75 per cent was  
7 appropriate and that evidence is before the Board. If  
8 Mr. Freidin is concerned because the label standard was  
9 attached to it, that's a matter he and I can address in  
10 argument at some subsequent point.

11 I'm not sure it's entirely appropriate to  
12 be asking Dean Carrow to defend the adequacy or  
13 inadequacy of questions that I put to a witness whose  
14 own counsel says the interpretation is differently  
15 concerning it.

16 MR. FREIDIN: Well, I won't pursue it.  
17 But for a moment, Madam Chair, my concern is that the  
18 evidence before the Board through the Industry is that  
19 Mr. Churcher, and particularly the Ministry of Natural  
20 Resources, have testified in this hearing that there is  
21 a standard.

22 I will indicate to you now that it's the  
23 Ministry's clear position that there is no such  
24 standard and if it remains a matter of contention, then  
25 I'll just have to call reply evidence to indicate that



1 Mr. Churcher, if he was interpreted in the way that it  
2 has been interpreted by Industry, that that is an  
3 incorrect interpretation.

4 MS. CRONK: I see. If it extends any  
5 comfort to my friend, I do not understand the Industry  
6 to be placing any great reliance on the word standard  
7 in connection with this discussion, but if my friend  
8 wants to put to Dean Carrow the appropriateness of that  
9 range, that's what I understand the substance of his  
10 evidence to be about.

11 MR. FREIDIN: All Right. And we also do  
12 not agree that in any particular case achieving between  
13 25 and 75 per cent -- anywhere between 25 and 75 per  
14 cent is acceptable, it depends on the circumstances.

15 Q. Now, after that, Dean Carrow, I have  
16 saved for you my last question, and it's on a matter  
17 which we spent some time.

18 And I have asked you about 80 per cent of  
19 the questions that I intended to, and I did that in  
20 order to shorten my cross-examination by 30 per cent.  
21 I received the answers I expected 60 per cent of the  
22 time, and for the other 30 per cent of the answers, 48  
23 per cent were totally unexpected.

24 If the Board understood all of your  
25 answers but only 20 per cent of my questions 40 per

1 cent of the time, do you think I was successful?

2 MS. CRONK: Don't even try. Don't even  
3 try.

4 MR. FREIDIN: Thank you. Thank you,  
5 panel.

6 DEAN CARROW: I had difficulty with the  
7 mathematics right from the start, Mr. Freidin, when you  
8 were talking about the 80/30.

9 MR. FREIDIN: All right.

10 MADAM CHAIR: Thank you very much, Mr.  
11 Freidin.

12 Ms. Seaborn?

13 Is it going to take a few minutes to --

14 MS. SEABORN: It will just take a couple  
15 of minutes. I know it's early, Madam Chair, but if the  
16 Board would consider taking their morning break now and  
17 then I could go right through with my  
18 cross-examination, as I indicated, I can be finished  
19 before lunch, and I'm starting even earlier than I had  
20 anticipated, so maybe I'll even finish before noon, if  
21 we come back in 20 minutes.

22 MADAM CHAIR: That's fine. We will take  
23 our 20-minute morning break now.

24 MS. SEABORN: Thank you.

25 MADAM CHAIR: Thank you.

1 ---Recess taken at 9:35 a.m.

2 ---On resuming at 10:00 a.m.

3 MADAM CHAIR: Please be seated.

4 MS. SEABORN: Thank you, Madam Chair.

5 Good morning, members of the panel.

6 Madam Chair, I am going to be dealing  
7 essentially this morning with the case studies as they  
8 relate to tending activities, so if the Board could  
9 have handy Exhibit 1100, which are the case studies,  
10 and there is other material that I will be referring to  
11 as well.

12 CROSS-EXAMINATION BY MS. SEABORN:

13 Q. I would like to begin with you, Mr.  
14 Stanclik, if I could, and I have some questions  
15 starting with case study 4D, and if you could turn to  
16 page 29 of that case study?

17 MR. STANCLIK: A. Yes.

18 MS. SEABORN: Madam Chair, you recall  
19 this is the Iroquois Falls case study presented by  
20 Abitibi-Price.

21 Q. Now, Mr. Stanclik, if we look at page  
22 29, we have the chronology of harvest and renewal  
23 activities in the case study area and there is also  
24 identified the tending activities as well, and  
25 according to this table all three blocks in the case

1 study area were aerially tended?

2 MR. STANCLIK: A. That's correct.

3 Q. And we see for the year 1984 that  
4 blocks A and B were aerially tended using glyphosate  
5 and block C was aerially tended using 2,4-D in 1988?

6 A. That's correct.

7 Q. And I would like to look for a moment  
8 at the silvicultural specifications that were in place  
9 at the time of the case study and those begin, Madam  
10 Chair, at page 46 of case study 4D, and if in  
11 particular you could turn to page 48.

12 Now, at page 48 Mr. Stanclik, under Item  
13 2, I believe we have the site description that applies  
14 to the harvest that was carried out in block A?

15 A. That's correct, under the working  
16 group of spruce.

17 Q. Yes. And if we go along to the  
18 column marked Treatment, we see underneath that it says  
19 tend if necessary; correct?

20 A. Yes, that's correct.

21 Q. And going back to page 47 under Site  
22 Type, A, Item 2, moderately to poorly drained soils?

23 A. Yes.

24 Q. And I understand that for block C the  
25 silvicultural specification is what appears in the



1 first line of Item 2, and for method of harvest that  
2 would be clearcut and alternate strips or blocks?

3 A. Yes.

4 Q. And we see under Treatment that again  
5 it says tend if necessary?

6 A. Yes, that's correct.

7 Q. And block B was dealt with under the  
8 second silvicultural specification, the group seed tree  
9 system?

10 A. Yes.

11 Q. And if we go along again under  
12 Treatment we see same as above.

13 A. That's correct again.

14 Q. So, again, we have tend if necessary.

15 Now, in all the three groundrules we've  
16 just looked at for the case study area, we see the  
17 statement tend if necessary, but there is no further  
18 elaboration as to chemical versus manual tending or  
19 ground application versus aerial application; is that  
20 correct?

21 A. Yes, in this case, that's correct.

22 Q. Now, I would like to turn to the  
23 first exhibit I would like to file, Mr. Stanclik, which  
24 is the cover page and Table 4.11 for the Iroquois Falls  
25 Forest FMA that's now in effect and I provided a copy

1 of these to you at the break.

2 Do you have that document in front of  
3 you?

4 A. Yes, I have.

5 MS. SEABORN: I would like to make that  
6 the next exhibit, Madam Chair, and it is the Iroquois  
7 Falls Forest FMA 500200 and it is the cover page and  
8 Table 4.11 excerpt from that plan.

9 MADAM CHAIR: That will be Exhibit 1211.

10 ---EXHIBIT NO. 1211: Excerpt from Iroquois Falls  
11 Forest FMA 500200 consisting of  
cover page and Table 4.11.

12 MS. SEABORN: Q. Now, Mr. Stanclik, I  
13 note on the cover page of these groundrules that you  
14 were one of the authors of the new timber management  
15 plan for this unit?

16 MR. STANCLIK: A. That is correct.

17 Q. And the date beside your name on the  
18 cover page is February 1990?

19 A. Yes, it is.

20 Q. And the plan period is -- the plan  
21 period for the FMAs is 1990 to the year 2010 and these  
22 groundrules cover the five-year period ending April  
23 1st, 1995?

24 A. Yes, that's correct.

25 Q. So this is the plan that's now in

1 effect on your management unit?

2 A. Yes, it is.

3 Q. Now, I want to focus on the  
4 maintenance and treatment description that's contained  
5 in the groundrules. Am I correct that except for the  
6 site description where no tending is anticipated the  
7 thrust of the tending program is the aerial application  
8 of herbicides?

9 A. Yes, and that was stated in my  
10 presentation, that on our FMAs the primary method is  
11 aerial application herbicide.

12 Q. And the way in which these  
13 groundrules have been written, the reader is directed  
14 to look at the annual work schedule to determine where  
15 the tending will actually be carried out in any one  
16 year?

17 A. Yes, that's correct.

18 Q. And according to these groundrules,  
19 would you agree that you could aerially tend almost any  
20 site?

21 A. That's correct, unless there was some  
22 specific other use that was in conflict with aerial  
23 tending, yes.

24 Q. That's right. But in terms of the  
25 way the groundrules have been prepared, your option is

1 open to aerially tend all sites except in the instance  
2 where your working group is going to be poplar?

3 A. Yes.

4 Q. Or hardwood?

5 A. That's correct.

6 Q. And you obviously wouldn't want to  
7 tend these sites with herbicides? I mean, it's  
8 unlikely.

9 A. You may, but in our case, no.

10 Q. Okay. Now, with respect to the black  
11 spruce low peat sites, I recall that the case study  
12 stated that some of these sites were nutrient poor; is  
13 that correct?

14 A. Yes.

15 Q. And generally nutrient poor black  
16 spruce sites do not require tending?

17 A. Generally speaking, that's correct;  
18 however, that was not the case in our case study.

19 Q. With one of the blocks that you  
20 looked at?

21 A. That's right. Block C was identified  
22 as nutrient poor but it did have a requirement for  
23 tending. Nutrient poor and nutrient rich are relative  
24 terms and there are various ranges of that general  
25 term, and everything changes very much with site.



1                   So what is generally identified as  
2           nutrient poor would have certain general  
3           characteristics, but may vary somewhat from that.

4                   Q. I want to have a look at an  
5           interrogatory that we posed in relation to this issue  
6           and it's MOE Question 1 for Panel 7 which has been  
7           filed as Exhibit 1136. Do you have in that in front of  
8           you?

9                   A. Yes, I do.

10                  Q. And Question 1(c) of that  
11           interrogatory we asked:

12                   "Which species and under what terrain,  
13           site and stand conditions is tending not  
14           likely to be required."

15                  And the second page of answer in Item (c)  
16           says:

17                   "It is not possible to provide an  
18           exhaustive list of which species and  
19           under what terrain, site and stand  
20           conditions tending is unlikely to be  
21           required. Examples, however, of site  
22           and stand conditions where tending might  
23           not be required are..." and you will see  
24           Item 2 is natural black spruce on nutrient poor peat  
25           sites?

1 A. Yes, I see that.

2 Q. And that is consistent with what you  
3 have said to me this morning with respect to generally  
4 you are not going to be tending the nutrient poor peat  
5 sites in black spruce areas?

6 A. Generally speaking, yes.

7 Q. Okay. Now, turning again to Exhibit  
8 1211, Table 4.11, which site description would  
9 encompass the black spruce lowland sites?

10 A. It's on page -- the fax No. 3.

11 Q. Yes, and at page 88 of the plan?

12 A. Yes, it's the second description  
13 there.

14 Q. That would be the moderately wet,  
15 poorly drained organic soils?

16 A. Yes.

17 Q. And based on the site description for  
18 the maintenance -- I'm sorry, based on the maintenance  
19 treatment description, there is an option there to tend  
20 with the aerial application of herbicides?

21 A. I'm sorry, B is the bottom one. Case  
22 study B, site B is the bottom one and C is the top one.

23 Q. Leaving aside the case study, in  
24 terms of nutrient poor sites, then, would they  
25 generally fall within the first site description, wet

1 organic, poorly drained soils?

2 A. Yes.

3 Q. And in relation, then, to the first  
4 site description, there is an option for tending to  
5 release crop species from competing vegetation and as  
6 detailed in annual work schedule?

7 A. Yes.

8 Q. So there is, then, under that  
9 maintenance treatment description an option to aerially  
10 tend a nutrient poor site; would you agree?

11 A. Yes, that's correct.

12 Q. Okay. And would you agree with me  
13 that if the site descriptions were further broken down  
14 for the purposes of the groundrules, you would be in a  
15 position to have a site description that identified  
16 more clearly a nutrient poor black spruce site type and  
17 then for your maintenance treatment description you  
18 would be able to say no tending required?

19 A. You could do that but, again, you  
20 could not be a hundred per cent sure that you would not  
21 need a tending treatment because The forest is quite  
22 variable, and you will note that when the tending  
23 treatment was done it was quite a long time period  
24 after the harvest. So conditions will change over time  
25 and you may in the longer term require a tending

1 treatment.

2 Q. No, I understand that, but in terms  
3 of a site description and based on the interrogatory  
4 response, if it is, in terms of good forestry practice  
5 and in terms of what is -- what makes sense to do out  
6 there in the field, if you are not going to generally  
7 tend a lowland nutrient poor black spruce site, that is  
8 something that could be identified in the groundrules  
9 if you had a site description that identified  
10 specifically these lowland sites?

11 A. Yes.

12 Q. Would you agree with that?

13 A. Yes, but then again I still would  
14 require the option to tend that in case it was  
15 required.

16 Q. And that's something that you could  
17 probably identify in that same groundrule; isn't it?

18 A. Yes.

19 Q. If you broke it down?

20 A. Yes.

21 Q. Okay.

22 A. You will note that these groundrules  
23 have expanded quite a bit from the original set that we  
24 referred to in the case studies that were in place at  
25 the time.



1 Q. Yes --

2 A. These are evolving constantly.

3 Q. I was going to come to that, Mr.  
4 Stanclik. In fact, we have looked at a lot of plans  
5 during the course of this hearing and there is some  
6 very detailed descriptions in these particular  
7 groundrules which we find helpful.

8 Now, coming back to the site  
9 descriptions, I notice that you've used the FEC  
10 classification system with respect to the site  
11 descriptions?

12 A. Yes.

13 MS. SEABORN: And the FEC for the Clay  
14 Belt, Madam Chair, is Exhibit 330. You will recall  
15 it's this small booklet and the full name is Field  
16 Guide to Forest Ecosystem Classification for the Clay  
17 Belt.

18 Q. Mr. Stanclik, the FEC for the Clay  
19 Belt has approximately how many different operational  
20 groups?

21 MR. STANCLIK: A. There are 14.

22 Q. And in terms of the numbers that  
23 you've referred to in the site description, you are  
24 referring to the FEC classification organizational  
25 groups?

1 A. Site description --

2 Q. I'm sorry operational groups?

3 A. Yes.

4 Q. And I have notes that you have  
5 combined some of the operational groups for the purpose  
6 of the groundrules?

7 A. Yes.

8 Q. Would you agree that if the  
9 operational groups were not combined the site  
10 descriptions could be further refined within these  
11 groundrules?

12 A. It's very difficult to subdivide it  
13 much further than what I have because within an area  
14 there may be several FEC groups intermixed and it's  
15 virtually impossible to separate it any further.

16 Where you have, for example, in C --  
17 pardon me, in the first description on the top of that  
18 page, 88, there is operational group 11 and 14. They  
19 are quite often found in combinations of 11 and 14.  
20 Similarly, in the second description on page 88, FEC  
21 groups 9, 11 and 12 are quite often found intermixed  
22 within the same area. That's why they have them  
23 identified in such a manner.

24 There is no area more than a couple of  
25 hectares in size that would necessarily be all one FEC

1 group. In fact, there is quite some detailed work done  
2 in mapping FEC groups and you can, I suppose, assign an  
3 average FEC group for a larger block of ground, but if  
4 you did detailed work on it you would see that it is  
5 subdivided into all these component pieces of a variety  
6 of FEC groups.

7 Q. Thank you.

8 MR. MARTEL: Can I just ask one question.  
9 Is that 11 to 14 because I think you said 11 to 14?

10 MR. STANCLIK: You are correct, Mr.  
11 Martel, 11 to 14.

12 MR. MARTEL: Thank you.

13 MS. SEABORN: Q. Mr. Stanclik,  
14 precommercial thinning as a manual tending technique is  
15 often used with when you aerially seed jack pine; is  
16 that correct?

17 MR. STANCLIK: A. That's correct.

18 Q. And if we look at the groundrules in  
19 Table 4.11 for jack pine, would you agree with me that  
20 there is no reference to thinning in conjunction with  
21 the maintenance description that's provided?

22 A. That's correct. That's primarily  
23 because we do not have much jack pine, we have not yet  
24 done any aerial seeding of jack pine and it's just  
25 something we have not considered to this point.

1 Q. And so the reason why it is not there  
2 as an option is because you don't do it?

3 A. At this point in time we don't, but  
4 when we do aerial seeding of jack pine we may be doing  
5 it.

6 Q. And as an author and writer of  
7 groundrules, is that something that you could identify  
8 in your maintenance treatment description?

9 A. As an option, yes, it is.

10 MS. SEABORN: Now, I would like to file  
11 one more excerpt from your current plan, Mr. Stanclik.

12 This, Madam Chair, is an excerpt from the  
13 same plan that begins on page 214 of the plan and goes  
14 through to page 220 and it includes Table 4.19 which is  
15 the forecast of renewal and maintenance operations.  
16 (handed)

17 MADAM CHAIR: Thank you.

18 MADAM CHAIR: This will be Exhibit 1212  
19 and again, Ms. Seaborn, this is from...

20 MS. SEABORN: This is again from the  
21 Iroquois Falls Forest FMA.

22 ---EXHIBIT NO. 1212: Excerpt from Iroquois Falls  
23 FMA Plan (pp. 214 to 220).

24 MS. SEABORN: Q. Mr. Stanclik, if you  
25 turn to page 216 of the excerpt we have here the



1 forecast for maintenance renewal over the five-year  
2 term of the plan?

3 MR. STANCLIK: A. Yes, that's correct.

4 Q. And this is something that is a  
5 requirement in the Timber Management Planning Manual,  
6 that areas that are to be tended during the five-year  
7 term of the plan must be forecast in advance?

8 A. Yes.

9 Q. And the forecast for your FMA in  
10 relation to tending identifies aerial tending only; is  
11 that correct?

12 A. Yes.

13 Q. And I take it from this, then, that  
14 as of the time that the forecast was prepared for the  
15 purpose of this plan you don't anticipate any manual  
16 tending, ground chemical tending or thinning on your  
17 sites?

18 A. That's correct.

19 Q. And, Mr. Stanclik, in terms of  
20 comparing this forecast with the silvicultural  
21 groundrules we just looked at, I found them to be quite  
22 comparable with respect to the groundrules generally  
23 identify aerial application of herbicides; correct?

24 A. That's correct.

25 Q. And you have not included a forecast

1 for protection; is that correct?

2 A. That's correct.

3 Q. And the reason for that is provided  
4 at page 220 of the excerpt if we look at the last  
5 paragraph?

6 A. Yes.

7 MS. SEABORN: And, Madam Chair, that is  
8 the last paragraph at page 220 where it refers to the  
9 unpredictability of insect and disease outbreaks.

10 Q. Mr. Stanclik, in what circumstances  
11 would you expect to be able to predict protection  
12 operations in the five-year forecast?

13 MR. STANCLIK: A. If, for example, we  
14 were in the middle of a budworm epidemic, then I could  
15 conceivably forecast something like that.

16 Q. Any other circumstance?

17 A. Albeit budworm or some other insect  
18 pests, there would have to be an indication that there  
19 was a problem with the population of one of those  
20 insects.

21 MADAM CHAIR: Excuse me, Mr. Stanclik,  
22 are you saying that in that area you would want to see  
23 the physical evidence that there was an infestation.

24 MR. STANCLIK: Yes.

25 MADAM CHAIR: And that would be the sign

1           that you would act on controlling the outbreak as  
2           opposed to -- is there any system that you would have  
3           foresee that your area would be in line for infestation  
4           in a year or two?

5                       MR. STANCLIK: We get the publications  
6           from CFS with regards to insect populations and based  
7           on that, with any consultation with the Ministry of  
8           Natural Resources, we would be submitting areas for  
9           protection.

10                      MADAM CHAIR: In that publication, do  
11           they show movement? Do they predict movement of the --

12                      MR. STANCLIK: Yes, they show where  
13           outbreak is and where they expect the outbreak to move.

14                      MS. SEABORN: Q. Mr. Stanclik, could you  
15           just turn for me to page 93 of Exhibit 7 which is the  
16           Timber Management Planning Manual. Do you have that  
17           with you?

18                      MR. TOMCHICK: Which page is that?

19                      MS. SEABORN: Page 93.

20                      MS. CRONK: Do you have that?

21                      MR. STANCLIK: A. No, I don't have that.

22                      (handled)

23                      Q. Mr. Stanclik, the date on the bottom  
24           right-hand corner of that page should April 1987?

25                      MR. STANCLIK: A. It doesn't. It's the

1 same problem I had with renewal.

2 MR. TOMCHICK: A. Mine doesn't say  
3 anything either.

4 MR. STANCLIK: A. Yes.

5 Q. And you will see the last paragraph  
6 and this is dealing with the forecast -- or, sorry,  
7 areas eligible for allocation for renewal and  
8 maintenance, and then at the bottom it says:

9 "Due to the unpredictability of insect  
10 and disease outbreaks, only known high  
11 value areas are identified as eligible  
12 for protection operations for the  
13 five-year term of the plan."

14 A. Yes.

15 Q. And would you agree with me, then, in  
16 terms of Table 4.11.9, where there is the reference to  
17 the forecast for protection, we are not going to see  
18 that forecast in very many cases in terms of reviewing  
19 plans; is that fair?

20 A. I wouldn't expect someone to be  
21 forecasting a protection program when there is no  
22 problem there.

23 Q. And that's why we deal with  
24 protection at the annual work schedule level?

25 A. Yes.



1 Q. In terms of planning?

2 A. Yes.

3 Q. Now, Mr. Smith, if I could ask you  
4 some questions in relation to the Spruce River Forest  
5 which is case study 4C.

6 MADAM CHAIR: Excuse me, can I ask Mr.  
7 Stanclik a question.

8 On your FMA, do you have what would be  
9 defined as particularly high value areas?

10 MR. STANCLIK: We have parks that are  
11 adjacent to our area, but within our FMA itself I would  
12 say that the high value areas would be the areas we  
13 intend to harvest in the next 20-year period.

14 MADAM CHAIR: Thank you.

15 MS. SEABORN: Q. Mr. Smith, blocks 5, 6  
16 and 10, we've heard, were all aerially tended using  
17 Roundup; is that correct?

18 MR. SMITH: A. Aerially tended, that is  
19 correct.

20 Q. And was Roundup used?

21 A. In the operation?

22 Q. Yes.

23 A. Yes.

24 Q. And if we turn to the silvicultural  
25 specifications which came with the case study, and

1       those begin at page 42, page 5 of those groundrules  
2       contains the site description that was ultimately  
3       applied or, I should say, most approximated the site  
4       and stand conditions encountered in the case study  
5       area?

6                   MR. SMITH: A. Again you're referring to  
7       site type No. 6?

8                   Q. Yes.

9                   A. Deep well drained organic soil less  
10      than 4 inches over glacial till?

11                  Q. Yes.

12                  A. Can you give me one minute to review  
13      these?

14                  Q. If you turn to page 9 of the case  
15      study itself that's where I obtained that information.

16                  A. I agree with your statement.

17                  Q. Thank you. And at page 6, again  
18      under the silvicultural prescriptions treatment, we see  
19      tend if necessary; is that correct?

20                  MS. CRONK: Page 6?

21                  MR. SMITH: Are you talking about page 6  
22      or page 7?

23                  MS. SEABORN: Q. I'm sorry. I'm  
24      actually talking about page 5 but site description 6.

25                  MR. SMITH: A. We're getting warm. I

1 agree with your statement.

2 Q. Okay. And would you agree that tend  
3 if necessary gives the reader no information as to  
4 whether tending will be conducted aerially or through  
5 ground application and whether or not herbicides will  
6 be applied?

7 A. I want to just read the qualifiers on  
8 page 7 before I answer your question. Could you repeat  
9 that for me one more time?

10 Q. Yes. When one sees the words tend if  
11 necessary in the silvicultural prescriptions for this  
12 particular table, it gives the reader no information as  
13 to whether tending will be by aerial or ground  
14 application and, if by ground application, whether or  
15 not herbicides will be applied?

16 A. I think from a reader's standpoint,  
17 using the three words tend if necessary, I agree with  
18 your statement; however, our interpretation in putting  
19 this document together, and if you -- what we have done  
20 is elaborate on that statement in our next set of  
21 ground rules and on the back page under notes, No. 7,  
22 we indicate:

23 "Tending, either chemical, manual or  
24 mechanical is an option on all sites to  
25 be carried out when necessary."

1                   And that was the intent of the original  
2                   statement on which we have elaborated on.

3                   MS. CRONK:   Sorry, where are you, Mr.  
4                   Smith?

5                   MR. SMITH:   I'm using the ground rules.

6                   MS. SEABORN:  Q.  I'm looking at the case  
7                   study.

8                   MR. SMITH:  A.  Okay.

9                   Q.  I think what you're doing is reading  
10                  from the ground rules that I provided you at the break  
11                  that I have not yet filed, and I would like to deal  
12                  with the case study and then we will come to the ground  
13                  rules.  I appreciate there's a difference between the  
14                  two.

15                  A.  I was simply giving you what our  
16                  interpretation of those three words meant; in other  
17                  words, it was more than simply aerial application.

18                  Q.  No, in terms of...

19                  A.  In the context of the case study, I  
20                  still disagree with your statement.

21                  Q.  Okay.  And you disagree with my  
22                  statement in terms of the level of information tend if  
23                  necessary conveys to the reader, because you're saying  
24                  that you, as a forester, can make certain assumptions  
25                  about what tend if necessary means; you know about



1           aerial application of herbicides, manual techniques?

2                   A. I agree with that.

3                   Q. Okay. And what I'm suggesting is  
4           that someone who reads this who is not a forester and  
5           is a member of the public or another interested  
6           individual reviewing these particular silvicultural  
7           specifications, tend if necessary does not convey to  
8           them a level of information as to what the tending  
9           options are for that particular site description?

10                   A. Correct. As a reader of this  
11           particular document, however, one must assume, since in  
12           this particular case when the ground rules were put  
13           together - and I wasn't involved in the initial  
14           operating plan, but it was signed by three professional  
15           foresters - as a member of the public one must assume  
16           that those gentlemen knew what they were talking about  
17           and there was more to the statement tend if necessary  
18           than is just indicated in the three words.

19                   Q. Well, I think it's probably quite  
20           clear that there is more to it than the words tend if  
21           necessary, at some point you're going to make certain  
22           choices.

23                   But what I'm suggesting is, that at this  
24           stage you've got silvicultural prescriptions that  
25           become approved plans, that become public documents and

1 someone who is reviewing this may be interested in  
2 knowing whether or not you primarily carry out aerial  
3 application of herbicides on your particular unit or  
4 whether the tending methods are primarily ground.

5 A. Okay.

6 Q. And presumably the forester at least  
7 knows that much when he writes the ground rules?

8 A. Exactly.

9 Q. Okay.

10 A. Just a point of clarification. What  
11 you're saying, if you read that statement the range of  
12 treatments is incorporated in the three words.

13 MR. MARTEL: But not to the public. If  
14 the public reads that statement they get virtually  
15 nothing from it, no treatment --

16 MR. SMITH: Okay, I agree with that, Mr.  
17 Martel, but as a public --

18 MR. MARTEL: But let me finish, Mr.  
19 Smith, because if the public coming to an open house  
20 were to read that, somebody reading that, what does it  
21 mean to them; forgetting that they're a forester for  
22 the moment, the lay public?

23 I mean, all of us, whatever field we are  
24 in, we get tied up with jargon that we understand, but  
25 I'm just saying: To somebody who's coming in and

1 reading that, it doesn't convey much, outside of the  
2 fact, you know, treat if need be.

3 MR. SMITH: Okay, I agree with your  
4 statement.

5 MR. MARTEL: I think what Ms. Seaborn is  
6 looking at is a little add-on maybe just to give the  
7 range as you yourself say, it's understood, it's not --

8 MR. SMITH: Fair enough.

9 MS. SEABORN: Q. And I think, Mr. Smith,  
10 let's deal with the table -- it's actually not Table  
11 4.11 with respect to your case study area because of  
12 the time period of the plan, but we will identify that  
13 correctly in a moment.

14 MS. SEABORN: And, Madam Chair, my next  
15 exhibit I would like to file is an excerpt from the  
16 Forest Management Agreement 500700 for the Spruce River  
17 Forest, and this is for the period April 1st, 1986 to  
18 March 31st, 1991.

19 MADAM CHAIR: That will be Exhibit 1213.

20 ---EXHIBIT NO. 1213: Forest Management Agreement  
21 500700 for the Spruce River  
22 Forest, April 1, 1986 to March  
31, 1991.

23 MS. SEABORN: (handed)

24 MADAM CHAIR: Thank you.

25 MS. SEABORN: Q. Now, Mr. Smith, unlike

1 the plan we have just seen, I've just discussed with  
2 Mr. Stanclik, this particular plan was prepared in  
3 accordance with the forest management manual; is that  
4 correct?

5 MR. SMITH: A. That would be my  
6 understanding.

7 Q. Okay. And this is not a document  
8 that attempts to comply in any way with their current  
9 timber management planning manual because the plan  
10 pre-dates the effective date of that manual?

11 A. I agree with that statement.

12 Q. But these are the ground rules that  
13 are in effect on the Spruce River Forest until March,  
14 1991?

15 A. At this point in time they are.

16 Q. And then a new plan will subsequently  
17 be prepared for the next five-year period?

18 A. Yes, correct.

19 Q. Now, in reviewing these particular  
20 ground rules there is no separate reference to tending  
21 in the body of the ground rules themselves; is that  
22 correct?

23 A. Having just had an opportunity to  
24 review it, I agree with that.

25 Q. And then you have some notes though



1 that are found at the last page of the exhibit, and  
2 Item 7 refers to tending; is that correct, under the  
3 notes?

4 A. That is correct.

5 Q. And the note essentially tells me at  
6 least - and you can tell me if you agree with me - that  
7 all tending options are available on all sites?

8 A. In general terms, I agree with that.

9 MS. SEABORN: Now, the next exhibit I  
10 would like to file, so we could look at it, is the  
11 predecessor of Table 4.19 which is Table 5-7, again  
12 from the Spruce River plan. (handed)

13 MADAM CHAIR: Thank you. That would be  
14 Exhibit 1214.

15 ---EXHIBIT NO. 1214: Table 5-7, excerpt from Spruce  
16 River Forest FMA Plan.

17 MS. SEABORN: Q. Now, Mr. Smith, the  
18 forecast that's contained in Exhibit 1214 which is the  
19 excerpt from the Spruce River Forest FMA contains a  
20 breakdown, and we will look first at site preparation.

21 MR. SMITH: A. Okay.

22 Q. And it shows a breakdown between  
23 mechanical and chemical, a second treatment, ground and  
24 aerial?

25 A. I agree with that.

1 Q. And in fact the forecast is quite  
2 specific in the sense that it splits up the years?

3 A. Okay.

4 Q. Is that correct?

5 A. That's correct.

6 Q. Now, do you know why, when this plan  
7 was written, there is no breakdown in the ground rules  
8 with respect to tending; however, there is a breakdown  
9 in terms of the forecast for the tending requirements?

10 A. Okay. In this particular instance,  
11 the one you're referring to, this is site preparation?

12 Q. Yes.

13 A. And you're referring to tending?  
14 There's two -- they are two different areas.

15 Q. No, I understand that. Then, let's  
16 just look at chemical tending again on the second page  
17 and do it that way. There's a split on Exhibit 1214,  
18 page 30 for chemical tending, there's a split on a  
19 yearly basis, and there is also a forecast with respect  
20 to pre-commercial thinning as well.

21 A. Okay.

22 Q. My general question is, that there is  
23 a degree of detail in the five-year plan in terms of  
24 the forecast, but what I'm suggesting to you is that  
25 when the ground rules were prepared for the five-year

1 plan there isn't that comparable type of detail with  
2 respect to the site descriptions.

3 A. I see the point that you're making.  
4 I'm in an unfortunate situation, having not prepared  
5 the plan in this case, to answer your question. I can  
6 only assume that what is implied in Note No. 7 has been  
7 expanded in the table and that statement encompasses  
8 the breakdown of the different categories.

9 Q. Okay. And you would agree with me,  
10 though, on just a quick look at it, there's no clear  
11 link between that? That may be the case if someone  
12 read through the whole plan, put it that way?

13 A. If someone were to read the plan,  
14 look at the ground rules and read the notes and refer  
15 to the table--

16 Q. They could figure it out?

17 A. --it would fit together.

18 Q. Okay. And just a couple of more  
19 questions, Mr. Smith, with respect to the case study,  
20 again, Exhibit 1100. I understand that blocks 5 and 10  
21 were chemically site prepared with 2,4-D in 1982?

22 A. That's right.

23 Q. And all three blocks were also  
24 mechanically site prepared by a variety of methods?

25 A. That would be my understanding.

1 Q. And if we go back again to the  
2 silvicultural specifications forecast study 4C, again  
3 at page 5 in Appendix 1, you see under treatment we  
4 have the prescription:

5 "Site prepare to rearrange slash and  
6 expose 800 planting chances per acre,  
7 plant 800 black spruce per acre."

8 A. I see where you're reading from.

9 Q. And that would be the prescription  
10 with respect to mechanical site preparation?

11 A. Reading this statement - and, again,  
12 I've not looked at the table - but using the words site  
13 prepare to me would indicate either mechanical or  
14 chemical or a combination of both.

15 Q. Wouldn't it normally be mechanical  
16 site preparation when you're going to rearrange slash  
17 to expose the planting chances?

18 A. In a normal situation and one that we  
19 would be directly one or two years behind our logging  
20 operations that indeed may be the case. In this  
21 particular situation we have classified this as an NSR  
22 area and it had been -- there had been harvesting  
23 intervention for a period of approximately 20 to 25  
24 years.

25 The point I'm making is that the

1 vegetation on the site was too thick and dense to treat  
2 it using a conventional mechanical site preparation.  
3 This is my point.

4 Q. And you'd agree with me that in the  
5 Appendix 1 there is no specific reference then to the  
6 potential for chemical site preparation. You'd again  
7 read that into the words site prepare?

8 A. In my -- my interpretation of the  
9 words site prepare in this context would imply chemical  
10 or mechanical or a combination of both.

11 Q. Now, if we turn again to the ground  
12 rules for the current plan, which is Exhibit 1213, and  
13 if we look at page 2 of those ground rules under Item  
14 C) proposed working group is jack pine or spruce?

15 A. Okay.

16 Q. And under treatment there's a  
17 reference to:

18 "Direct seed at 50,000 jack pine  
19 seed/gross hectare."

20 Do you see that?

21 A. I see your reference.

22 Q. Okay. And would you agree with me  
23 that there is no mention of thinning in this particular  
24 ground rule? I think that's consistent with what you  
25 said earlier about there's no -- in terms of how one



1 interprets these ground rules, you have to have a look  
2 at the notes?

3 A. The third box down under treatment  
4 1,2,3,7 I see no reference to thinning.

5 Q. Okay. And in the forecast that we  
6 looked at, Exhibit 1214, on the third page of that  
7 exhibit there is a forecast for pre-commercial thinning  
8 in years 88-89, 89-90 and 90-91?

9 A. That is correct.

10 Q. Okay.

11 A. What, however, concerns me is there  
12 is a sentence at the bottom of the page which says:

13 "Silvicultural prescriptions in the  
14 revised 1986-91 ground rules will  
15 determine the species that is to be  
16 planted."

17 And I'm not -- are we dealing with  
18 revised documents here?

19 Q. Well, I hope we are dealing with the  
20 right ground rules. I suppose what we should do is,  
21 that if there is any suggestion that I've got the wrong  
22 ground rules, then through your counsel I could be  
23 advised of that.

24 I obtained these through the timber  
25 management plans that are kept with my client as

1 approved plans.

2 A. But the point I'm making is the word  
3 revised, I have some concern for that word.

4 Q. Okay.

5 MS. SEABORN: Perhaps, Ms. Cronk, I could  
6 leave it --

7 MS. CRONK: I'll advise you.

8 MS. SEABORN: Thank you.

9 Q. Now, looking at case study 4B is the  
10 one I would like to look at next, Mr. Bunce.

11 Now, in case study 4B which is the E.B.  
12 Eddy case study, there were tending treatments carried  
13 out in 1984 and 1986; is that correct?

14 MR. BUNCE: A. That's correct.

15 Q. And the programs involved spraying  
16 2,4-D aerially using a helicopter?

17 A. Yes.

18 Q. And the areas selected for the spray  
19 program were determined in the fall before the spray  
20 program was undertaken?

21 A. Yes.

22 Q. And let's have a look at these  
23 silvicultural specifications which begin at page 43 of  
24 case study 4B. And if you look at page 1 of the  
25 silvicultural specifications for the inventory working

1 group jack pine, the second column under silvicultural  
2 prescriptions Item 5, it says:

3 "Tending may be required in the third  
4 year and again in the fifth year if  
5 competition is unusually heavy."

6 Is that correct?

7 A. Yes.

8 Q. And would you agree that this is a  
9 relatively specific ground rule, in that the years of  
10 proposed tending are actually identified?

11 A. Well, it's specific, but I still  
12 think it's somewhat general in the fact that we are  
13 saying that we expect it in the third and fifth year,  
14 however, it could well be in the second year and the  
15 fourth year or the fourth year and the sixth year.

16 The reason that we use the third and  
17 fifth year is that we generally do a second year  
18 assessment or an assessment the year after and it's  
19 from that information and checking the areas that we  
20 realize that tending is required. So those are based  
21 on the assessments that we do.

22 I couldn't actually say to you that it  
23 would definitely be in the third year and definitely in  
24 the fifth year, but it certainly gives some indication  
25 that that's probably going to be the case.

1 Q. Okay. And there's an attempt  
2 throughout this table, as I read it, to identify what  
3 year the tending will most likely be undertaken; it's  
4 not just in the Item 5 we've looked at? If you read  
5 through them there is numerous references to the year  
6 of tending.

7 A. That's right. And that's -- I guess  
8 you're going to get to the new ground rules after. You  
9 will not necessarily see that in the new ground rules  
10 because it's very hard to predict a year as we tried to  
11 do at that point in time. So we have modified it since  
12 that time because it's very hard to pick a specific  
13 year and say in the third year, because as did happen,  
14 sometimes it was the second year and sometimes it was  
15 the fifth year.

16 Q. And with respect to dealing with this  
17 table in terms of the herbicides that would be sprayed  
18 or the method of application in terms of aerial versus  
19 ground application, there is no detail in these ground  
20 rules in that regard?

21 A. No, in the ground rules there isn't,  
22 I don't believe. I shouldn't say in the ground rules  
23 themselves, the specifications and standards themselves  
24 there isn't. We don't have the ground rules here, we  
25 only have the specifications and standards part. There

1 would be another part to that, the ground rules. The  
2 specifications and standards would have been part of  
3 the ground rules.

4 Q. Okay. When you talk about -- I just  
5 want to clarify that, because we asked an interrogatory  
6 quite early on in that regard to make sure that we had  
7 the ground rules with respect to all these case  
8 studies. When you say there would other ground rules,  
9 do you mean the FMA agreement?

10 A. Well, part of it, but what I'm saying  
11 here is all we have here is the silvicultural  
12 specifications, the regeneration standards and I had  
13 inadvertently said this was the ground rules. This is  
14 not the ground rules, this may be part of the ground  
15 rules, but it's not the entire ground rules, as I  
16 understand it.

17 Like, the ground rules may have other  
18 things in it about tending, invoicing and things like  
19 that.

20 Q. Oh, okay. I'm talking about the  
21 ground rules that would contain site descriptions;  
22 we've got those?

23 A. Yes, you have the part of the ground  
24 rules that has the site description.

25 Q. Oh, good, because we're on the last



1 activity and I would have been upset if I realized --

2 MS. CRONK: Table 1 is part of it.

3 MS. SEABORN: Q. Okay. Now, Mr. Bunce,  
4 you weren't here for the renewal panel, but Mr. Waddell  
5 advised that he did not think that the new  
6 silvicultural ground rules for the Upper Spanish Forest  
7 have been approved, and I have obtained those and I  
8 would like to file those documents now.

9 MS. SEABORN: And, Madam Chair, that is  
10 Upper Spanish Forest FMA 500400, prepared by E.B. Eddy  
11 Forest Products. (handed)

12 MADAM CHAIR: That's Exhibit 1215.

13

14 ---EXHIBIT NO. 1215: Silvicultural ground rules re  
15 Upper Spanish Forest FMA 500400,  
16 prepared by E.B. Eddy Forest  
Products.

17 MS. SEABORN: Q. Now, Mr. Bunce, I just  
18 want to follow up on a point you made with respect to  
19 Table 1 where you said that the reference to timing and  
20 release, for example the year of release, had been  
21 dropped for this set of ground rules; is that correct?

22 MR. BUNCE: A. Yes. I do believe we're  
23 not as specific as to the timing, for the reasons that  
24 I stated.

25 Q. And can you confirm for me that these

1 are in fact the ground rules that are in effect now for  
2 the Upper Spanish Forest?

3 A. I'm still under the understanding  
4 that the ground rules for the Upper Spanish are not as  
5 yet approved, however, the timber management plan for  
6 the Upper Spanish has been approved of which these  
7 tables are a part, yes.

8 Q. So you'd agree with me that based on  
9 the cover page the plan has been approved; and when you  
10 say the ground rules have not been approved, are you  
11 referring to the negotiated FMA agreement itself?

12 A. And the ground rules which form part  
13 of that agreement, yes.

14 Q. And would you agree that these are  
15 are -- the ground rules that I filed would be the ones  
16 that would be used for the purpose of planning?

17 I'm trying to understand if the plan has  
18 been approved, how it is --

19 A. The plan has been approved, yes.

20 Q. How it is the ground rules.

21 A. The plan has been approved and we  
22 were working under these ground rules at this point in  
23 time.

24 MR. FREIDIN: Madam Chair, I think this  
25 has been a problem since day one in this hearing, and

1 just not using certain language precisely and, if I  
2 just might, I think I can clear up this confusion  
3 between ground rules which is going on.

4 I think everyone agrees that in an FMA  
5 agreement there's a section called ground rules and it  
6 deals with a whole bunch of things. Only one part of  
7 that is called silvicultural specifications. The  
8 silvicultural specifications are tables which are  
9 identical to what are called silvicultural ground rules  
10 in timber management plans. You have Table 4.11 in the  
11 timber management plan, that table is called  
12 silvicultural ground rules. They are the same thing as  
13 the silvicultural prescription portion of the ground  
14 rules in FMA agreements.

15 So if people could try to be more precise  
16 whether they're talking about silvicultural ground  
17 rules or the silvicultural specifications in the FMA  
18 ground rules, people will know they're talking about  
19 the same thing.

20 If you talk about silvicultural ground  
21 rules I think as opposed to saying ground rules all the  
22 time, if you're referring to these tables, we don't  
23 have a problem. And I hope I haven't confused anybody.

24 MS. SEABORN: Well, I don't think I  
25 misunderstood that, Mr. Freidin. What I was trying to

1 establish with Mr. Bunce is that with respect to the  
2 approved timber management plan we have Table 4.11, and  
3 Mr. Bunce has said, I believe, that they're operating  
4 under these silvicultural groundrules.

5 Q. Correct?

6 MR. BUNCE: A. That's correct.

7 Q. Okay. And in terms of what may be  
8 approved as between MNR and the FMA holder with respect  
9 to sections of the FMA agreement that contain ground  
10 rules, those may not be finalized?

11 A. That is correct.

12 Q. Okay. And so when I asked Mr.  
13 Waddell about -- I think I understand what you're  
14 telling me, is that when I asked Mr. Waddell about the  
15 approval -- I'm sorry, when Mr. Waddell made a comment  
16 on the record that he was sure the ground rules had  
17 been approved, he was not referring then to the ground  
18 rules in the timber management plan?

19 A. I don't think so. I can't speak for  
20 Mr. Waddell. I'm sure that is probably what he was  
21 saying.

22 Q. I don't think it's really relevant at  
23 this point in any event.

24 Q. Now, getting back to the references  
25 with respect to timing of release, I think you've

1       agreed with me that the year of timing has -- year of  
2       release reference has not been included in Table 4.11;  
3       would you agree with that?

4                   A.   I'd agree with that.

5                   Q.   And except for the reference under  
6       site description D, the references to multiple  
7       treatments have also disappeared in the sense of one  
8       release per year, two releases per year.

9                   A.   Yes, but does say at least one which  
10       implies that there is a good chance that there would be  
11       more than one.

12                  Q.   Right. So under that particular site  
13       description there is contemplated that there would be  
14       more than one release?

15                  A.   Yes, that's true.

16                  Q.   But that's not -- that same wording  
17       does not appear under the other site description  
18       letters?

19                  A.   That's correct.

20                  Q.   And if would we compare these  
21       particular silvicultural groundrules to the ones that I  
22       looked at with Mr. Stanclik for the Iroquois Falls  
23       timber management plan, would you agree that these  
24       groundrules are not as specific in that there is no  
25       reference to aerial application or the anticipated



1 chemical to be sprayed?

2 A. They're not as specific if you were  
3 talking about those things, but they certainly are  
4 specific to the sites that we have and the types we  
5 treat, but to aerial application, no, it does not  
6 specify aerial application in these tables.

7 Q. And with respect to your table,  
8 tending is an option for all site descriptions except  
9 where the proposed working group is hardwood; is that  
10 correct?

11 A. It is an option, yes.

12 Q. Okay. Now, the way that these  
13 particular groundrules have been formulated, if you  
14 look at the last page of the exhibit, you have given a  
15 little index to what the letters mean for the site  
16 description?

17 A. Yes.

18 Q. And we have the five broad soil types  
19 and three of these soil types -- three of these site  
20 descriptions, B, C and D contain a hardwood component;  
21 is that correct?

22 A. Yes, A could also contain the  
23 hardwood component.

24 Q. It could?

25 A. Yes.

1 Q. Okay.

2 A. I don't see why E would not  
3 necessarily have a hardwood component either. It's not  
4 very likely, but it could.

5 Q. Okay. Just looking at E as it's  
6 written, under the Maintenance Prescription it says no  
7 tending will be required; is that correct?

8 A. That's correct.

9 Q. Okay. Now if we go back to 4.11,  
10 page 96 of the plan, we have site description A, E?

11 A. Mm-hmm.

12 Q. And would you agree with me that if  
13 you had broken down those site descriptions for just A  
14 where you say may require release from competition, and  
15 then had another column for E and said under tending  
16 that no tending will be required, that would provide a  
17 breakdown with respect to site descriptions -- or it  
18 would provide a greater level of detail in terms of  
19 reading the table?

20 A. That's correct.

21 Q. Okay.

22 Q. Now, the site descriptions also, as  
23 you said, include a hardwood component. We don't  
24 normally spray herbicides to release hardwoods; do we?

25 A. Would you please repeat the question?

1 Q. We don't spray herbicides to release  
2 hardwoods, release conifers?

3 A. In my particular case at this  
4 particular time that's correct.

5 Q. Okay. And so I'm looking at this in  
6 the context of if you separate it out, the hardwood  
7 components of the site description in Table 4.11, then  
8 you would be able, would you agree with me, you would  
9 be able to say with more certainty that no maintenance  
10 would be required in terms of herbicide application?

11 A. Which one are you speaking about? If  
12 you look at Table 4.11, page 95, under site description  
13 B, C and D.

14 Q. Right.

15 A. It says, for example, if you were  
16 doing a mixed wood site, there is a possibility that  
17 you may tend; however, if you have a hardwood -- if  
18 your proposed working group is for hardwoods, that no,  
19 you would not tend.

20 Q. Right. And what I'm suggesting is  
21 that if the site descriptions were broken down a little  
22 bit more you would have a site description beside that  
23 proposed working group, hardwood, and then you would  
24 follow along to no tending, rather than grouping B, C  
25 and D together?

1                   A. But if you did not group B, C and D,  
2                   you would still put B down and have the exact same  
3                   information; in other words, if you put B down, there  
4                   is still a possibility of a mixed wood, there is still  
5                   a possibility of a hardwood, and the same with C, there  
6                   is still a possibility of each one, so I would just be  
7                   repeating the information several times. It would not  
8                   be any different.

9                   Q. And you would be repeating the  
10                  information, though, because of the way the site  
11                  descriptions are set up because you have chosen A  
12                  through E.

13                  What I'm suggesting is that you might  
14                  have two more site descriptions, you may have A through  
15                  G in order to break it down a little bit more?

16                  A. What other site descriptions are you  
17                  suggesting?

18                  Q. In terms of taking out the hardwood  
19                  component.

20                  A. I don't think you can take out the  
21                  hardwood component of a stand. We're talking about  
22                  mixed wood stands and it's just a matter of what your  
23                  silvicultural goal is for that stand, whether you let  
24                  it become a predominantly hardwood stand or you manage  
25                  it to become a predominantly softwood stand.

1 Q. Okay, thank you. Now, I would like  
2 to deal -- excuse me for one moment.

3 MS. SEABORN: Just before I move on to  
4 case study 4A, I just want to file, so that we have the  
5 complete package, the excerpt from the plan that deals  
6 with the forecast of renewal and maintenance operations  
7 with respect to the Upper Spanish Forest. (handed)

8 MADAM CHAIR: This will be Exhibit 1116.

9 MS. CRONK: One hundred, Madam Chair?

10 MADAM CHAIR: and sixteen -- 216.

11 MS. CRONK: 1216, thank you.

12 MR. BUNCE: Would you repeat what you  
13 just gave out? Did you say the Upper Spanish Forest?

14 MS. SEABORN: It should be.

15 MR. BUNCE: That's not what I have.

16 MADAM CHAIR: This is the English River  
17 Forest, Ignace and Sioux Lookout Districts.

18 MS. SEABORN: I apologize, Madam Chair.  
19 That's the next thing I am going to be referring to, so  
20 we can leave that as --

21 MADAM CHAIR: Shall we make that Exhibit  
22 1217 then? Is that your next exhibit following?

23 MS. SEABORN: Yes, thank you. I'm sorry,  
24 I picked up the wrong Xerox.

25 So just for the record, then, Exhibit



1 1217 will be the excerpt from the English River Forest  
2 and we will now file Exhibit 1216 which will be the  
3 forecast for renewal and maintenance with respect to  
4 the Upper Spanish Forest. (handed)

5 ---EXHIBIT NO. 1216: Excerpt from the Upper Spanish  
6 Forest TMP re the forecast of  
7 renewal and maintenance  
8 operations.

9 ---EXHIBIT NO. 1217: Excerpt from the English River  
10 Forest TMP.

11 MS. SEABORN: Mr. Bunce, I just wanted to  
12 have a look at the forecast on the last page of the  
13 hand-out. Would you agree with me that the forecast  
14 for 1990 to '95 for the Upper Spanish Forest is limited  
15 to the aerial application of herbicides?

16 MR. BUNCE: A. Yes. Our best estimate  
17 was aerial application, yes.

18 Q. Okay. Mr. Bunce, let's -- just going  
19 back to the report again. There is a breakdown at page  
20 162 with respect to the intensive program which shows  
21 mechanical, chemical planting, seeding and release?

22 A. Yes.

23 MR FREIDIN: Sorry, what are we looking  
24 at now, Ms. Seaborn?

25 MS. SEABORN: Page 162 of the renewal and  
maintenance document I filed in relation to Mr. Bunce's  
case study area.

1 MR. FREIDIN: Okay, thank you.

2 MS. SEABORN: Q. And that same detail  
3 does not appear on Table 4.19 in terms of the forecast;  
4 is that correct?

5 MR. BUNCE: A. The same detail is there.  
6 It shows mechanical site preparation, chemical site  
7 preparation, prescribed burning, the amount of  
8 planting, and I'm not sure what your question is.

9 Q. Okay. In terms of tending, then,  
10 with respect to maintenance tending, we have the  
11 identification of aerial, but we have no identification  
12 of ground tending or manual tending because you are not  
13 forecasting those operations during the five years; is  
14 that correct?

15 A. It's not a matter of forecast. You  
16 have to give your best estimation and our best  
17 estimation was we put it all into aerial.

18 Q. Right.

19 A. At this point.

20 Q. Right. And you've also -- you  
21 forecast the mechanical site preparation and the  
22 chemical site preparation as well?

23 A. Yes, we have.

24 Q. Okay. So planting and the seeding  
25 and the release?

1 A. Yes.

2 Q. Okay. Now, Mr. Ferguson, we have  
3 heard evidence in relation to your case study that no  
4 tending was required on the case study area?

5 MR. FERGUSON: A. That's correct, yes.

6 Q. And if we look at the silvicultural  
7 specifications that are contained within case study 4A,  
8 which begin at page 50 of the case study, and we turn  
9 specifically over, Mr. Ferguson, to the second page of  
10 the table, Item 2, Chosen Treatment, which is item 2,  
11 is that correct, for jack pine?

12 A. Yes, that's correct.

13 Q. Okay. And there is no reference  
14 under treatment to tending and I take it that's because  
15 you weren't tending?

16 A. Correct. There's no reference to  
17 tending specifically in this table.

18 Q. Okay. There is, however, in some of  
19 the other site descriptions in the silvicultural  
20 specifications the words 'tend if necessary'; is that  
21 correct?

22 A. That is correct, yes.

23 Q. Okay. And I believe in response to a  
24 question that Mr. Hanna asked earlier in the week you  
25 said that tending is in fact carried out on the English

1 River FMA?

2 A. Yes, it is.

3 Q. Okay. And if we now at Exhibit 1216,  
4 which is the cover page for the current timber  
5 management plan. Do you have that in front of you?

6 MS. CRONK: 1217.

7 MR. FREIDIN: 1217.

8 MS. SEABORN: 1217, thank you.

9 MR. FERGUSON: Yes, I have that.

10 MS. SEABORN: Q. And can you confirm for  
11 me that these are -- this is the cover page from the  
12 timber management plan that's in effect and attached  
13 are the silvicultural groundrule for normal operations  
14 from that plan?

15 MR. FERGUSON: A. Yes, that is correct,  
16 as the groundrules exist today -- or silvicultural  
17 specifications I should say.

18 Q. Okay. Now, Mr. Ferguson, can you  
19 provide me with any explanation as to why there is no  
20 entries for the maintenance treatment description  
21 column?

22 A. Yes, I can. The considerations for  
23 the maintenance treatment associated with these  
24 silvicultural groundrules are contained in the  
25 footnotes, which I don't believe are included with this

1 document.

2 I don't have one with me, but I do have  
3 the footnotes for the groundrule associated with the  
4 '85 to '90 plan and the wording may have changed  
5 slightly, but the gist of it is that:

6 Tending, either chemical or manual, is  
7 an integral part of forest management and  
8 is an option on all sites.

9 Similar wording is associated with the  
10 tables which you have provided here.

11 The reason they were not dealt with  
12 specifically is that relative to their forest  
13 management areas within the province, the level of  
14 tending which is required on the English River Forest  
15 is very low. In fact, in the majority of cases tending  
16 is not required.

17 However, in reviewing each of the  
18 prescriptions one at a time, there were exceptions to  
19 that which could be foreseen and the possibility of a  
20 need for tending on virtually all sites. Rather going  
21 into the detail of listing tending options time after  
22 time when realistically in most cases they would not be  
23 required, it was felt that a general statement  
24 associated with the entire silvicultural table would  
25 suffice.



1 Q. Now, that raises a number of  
2 questions in my mind, Mr. Ferguson. First of all, you  
3 are aware, aren't you, that there is a requirement in  
4 the planning manual that both tending and protection  
5 options be entered in Table 4.11?

6 A. Yes, I am.

7 Q. And that requirement is contained at  
8 page 66 of the Timber Management Planning Manual, and  
9 you will recall that we looked at this in the context  
10 of renewal?

11 A. Yes, I'm not familiar with the exact  
12 page, but I agree with your statement.

13 Q. If we just turn to page 66 of the  
14 planning manual.

15 MR. FREIDIN: What page?

16 MS. SEABORN: 66.

17 MR. FERGUSON: I have the page.

18 MS. SEABORN: Q. Under Item 9,  
19 maintenance treatment description:

20 "Enter the tending and protection options  
21 which can be expected to be applied in  
22 order assist the renewal treatment to  
23 reach FTG and to maintain that  
24 condition."

25 Now, just before we go on with your case

1 study, I just want to ask a couple of clarifications  
2 because we are on page 6. In your experience, Mr.  
3 Ferguson, would protection options every be found in  
4 Table 4.11?

5 A. Protection options?

6 Q. Yes.

7 A. I don't believe so.

8 Q. Mr. Stanclik?

9 MR. STANCLIK: A. I would have to agree  
10 with Mr. Ferguson, I don't believe so.

11 Q. Mr. Smith?

12 MR. SMITH: A. I don't believe so.

13 Q. Mr. Bunce?

14 MR. BUNCE: A. Would you repeat the  
15 question, please?

16 Q. Yes. Would protection options  
17 normally be identified in Table 4.11?

18 A. No, not to my knowledge anyway.

19 Q. And, Mr. Stanclik, I take it from  
20 your earlier evidence that a requirement to enter your  
21 protection options at the five-year level is not one  
22 that Industry would generally support?

23 MR. STANCLIK: A. It's virtually  
24 impossible to forecast your protection options at that  
25 time.

1 Q. Now, Mr. Ferguson, dealing again with  
2 your FMA, I would like to file the last exhibit that I  
3 am going to be referring to which is forecast of  
4 renewal and maintenance operation in relation to the  
5 English River Forest. (handed)

6 MADAM CHAIR: Thank you. That will be  
7 Exhibit 1218.

8 ---EXHIBIT NO. 1218: Excerpt from the English River  
9 Forest TMP re the forecast of  
10 renewal and maintenance  
operations.

11 MS. SEABORN: Q. Now, Mr. Ferguson --

12 MS. SEABORN: I'm sorry, Madam Chair,  
13 it's exhibit...?

14 MADAM CHAIR: 1218.

15 MS. SEABORN: Thank you.

16 Q. Now, I want to look at the forecast  
17 for a moment, Mr. Ferguson, in relation to the English  
18 River Forest. You have said in response to my question  
19 with respect to maintenance treatment that unlike other  
20 FMAs there is very little tending done on your FMA, but  
21 I note that the forecast for the five-year period of  
22 the plan is 9,232 hectares, and that's aerial tending?

23 MR. FERGUSON: A. Yes, that's correct,  
24 that's what the forecast indicates.

25 I would just qualify that, if I may. The

1 manner in which that number was derived was an  
2 evaluation of a site-by-site basis of the area within  
3 the five-year planning period as to any areas which may  
4 potentially require tending.

5 Realistically, I suppose we know that  
6 even though an area may have the potential to require  
7 tending, in the majority of cases, based on our past  
8 experience, they will not in fact require that level,  
9 so that figure may be -- I guess that will be an  
10 absolute maximum of areas which we would consider would  
11 have the potential for tending. Realistically we feel  
12 the figure would be considerably lower, so it may be a  
13 little misleading in that respect.

14 Q. Okay, but I guess my simple point  
15 is - and I won't belabour it - is that you've got a  
16 forecast in here. What you're telling me now it's  
17 conservative; is that fair?

18 A. Exactly, yes.

19 Q. Okay. And then we've got a set of  
20 groundrules that have -- silvicultural groundrules for  
21 normal operations that have just been approved by the  
22 Ministry, and in order to learn about the maintenance  
23 treatment description there is a reference to a  
24 footnote that one has to go to; is that correct?

25 A. That's correct, yes.

1                   Q. And from what I understand of your  
2 wording in the footnote, the footnote would tell  
3 someone that tending is an option on all sites; is that  
4 correct?

5                   A. That's correct.

6                   Q. Okay. So you are going to have to  
7 wait until you get to the annual work schedule stage  
8 before you are really going to know anything of  
9 substance about the tending program on your unit; is  
10 that fair?

11                  A. The specific details would not be  
12 available until the annual work schedule stage;  
13 however, the tables are only one part of the timber  
14 management plan.

15                  In my mind, if I were to be looking for  
16 information relative to timber management activities, I  
17 would certainly not be looking at the table as my first  
18 step. I would be referring to the maps which are also  
19 included, the maps which form the major part of the  
20 timber management plan, to identify areas where  
21 maintenance and tending may be carried out. So that  
22 information -- the possibility of a tending treatment  
23 is identified on the maps.

24                  Q. I understand that, that someone would  
25 want to go to the maps and get into further detail to



1 understand the plan, but when I'm looking at it, I'm  
2 looking at it from the point of view of putting  
3 together what we've talked about in terms of  
4 silvicultural packages, trying to look at activities in  
5 a group so that someone can look at a plan and say:  
6 Okay, we are going to be using a particular -- these  
7 are our silvicultural system options, these are our  
8 options with respect to method of harvest, this is what  
9 we want to do with renewal, and if we carry out our  
10 preferred renewal treatment this is what's likely to  
11 happen in terms of tending.

12 And all I'm suggesting is that someone  
13 reviewing this table, they can't make that link in a  
14 simple way. Would you agree with that?

15 A. I suppose the table could have been  
16 carried one step further and be -- simply we could have  
17 filled in a statement following each of the  
18 silvicultural prescriptions under the maintenance  
19 treatment description which would say 'tend as  
20 required', and that may provide some additional  
21 information.

22 The difficulty I am having is it's  
23 extremely difficult for us to predict the need for  
24 tending because it is the exception rather than the  
25 rule. My feeling is to indicate in all of those

1 situations 'tending as required' would imply a high  
2 probability of tending when, in fact, the probability  
3 of tending is relatively low.

4 Q. But looking at it another way, you  
5 are able in terms of your forecast - and I accept your  
6 evidence that you're putting in a conservative forecast  
7 with respect to your aerial tending requirements - but  
8 at least in terms of your forecast which you prepare at  
9 the same time as you prepare your 4.11, you've at least  
10 been able to identify that: If we're going to tend on  
11 this unit, let's be frank, we're going to do aerial  
12 tending, let's not have people thinking we're going to  
13 be out there doing manual cleaning and other such  
14 treatments?

15 MR. FERGUSON: A. I have no problem with  
16 that.

17 Q. Okay. And I just want to refer to a  
18 renewal question with you, Mr. Ferguson. You recall  
19 that Ms. Cronk raised with you the issue of whether in  
20 the 90-95 silvicultural ground rules the renewal  
21 treatment descriptions had been put in order of  
22 priority, and we didn't have the ground rules in front  
23 of us then, and I believe your evidence was that, yes,  
24 they were.

25 Can you confirm that the numbering system

1           that appears on Table 4.11 shows a preference with  
2           respect to renewal treatment descriptions?

3                       A. Yes, that is correct. The 90-95  
4           silvicultural ground rules are listed in order of  
5           preference as were the previous -- the ground rules for  
6           85-90. The original ground rules for the English River  
7           Forest, that being 1980-1985, were not.

8                       Q. So we do know from looking at this  
9           FMA plan that you as a manager have a certain  
10          preference in the sense of what you would like to do  
11          with your renewal program; is that fair?

12                      A. That's correct, yes.

13                      Q. Okay. And I note that in some  
14          instances there is no method of harvest identified and  
15          the identification of the method of harvest is in the  
16          sense of strip blocks or group seed tree cuts; would  
17          you agree with that?

18                      A. Yes. I believe the assumption here  
19          is that unless there's a particular restraint on the  
20          method of harvest as indicated in the situations where  
21          the block strips are identified, then the clearcut  
22          normal operations prevail.

23                      Q. Okay. But in terms of method of  
24          harvest, unless there's a footnote I'm missing, there's  
25          no indication of full-tree harvest versus tree-length

1 harvest, for example?

2 A. That's correct.

3 Q. Okay. And would you agree that block  
4 strips or group seed tree cuts are essentially part of  
5 the silvicultural system, the clearcut silvicultural  
6 system as opposed to a harvest method or a harvest  
7 system in the way that the Industry has used the  
8 definitions in their case?

9 A. Yes, I think that would be a fair  
10 statement.

11 Q. Okay. Mr. Stanclik, could you turn  
12 to page 98 of the witness statement for me.

13 MADAM CHAIR: Can we put Exhibit 1100  
14 aside, Ms. Seaborn?

15 MS. SEABORN: Yes, thank you.

16 Q. And if you could turn to Table 1,  
17 which is at page -- I'm sorry, Table 2 which is at page  
18 98, and that table was revised by Exhibit 1132.

19 Do you have that in front of you, Mr.  
20 Stanclik?

21 MR. STANCLIK: A. Yes.

22 Q. Now, this information with respect to  
23 Crown lands treated with herbicides by the Industry in  
24 the area of the undertaking, I take it this applies to  
25 FMAs?

1 A. Yes, it does.

2 Q. Okay. And for 1988 as an example, do  
3 you know, and I'm just looking at a ballpark figure,  
4 what percentage of -- what the total number of hectares  
5 that would be harvested on FMAs during the same period  
6 would be? I'm trying to get a sense of the magnitude  
7 between treatment and harvest in any one year.

8 A. I'm sorry, I haven't got the  
9 slightest idea.

10 Q. Okay. Can anyone else give me a  
11 ballpark figure on that?

12 MR. BUNCE: A No, I'm sorry.

13 Q. Okay. On your particular unit, Mr.  
14 Stanclik, what would be the -- at any one point in  
15 time, what would be the comparison between harvest and  
16 tending in terms of level of harvest and level of  
17 tending?

18 A. It's probably best seen in Table 4.11  
19 that you presented previously, Exhibit 1212 I think.

20 Q. Yes.

21 A. Okay. The one-numbered page 216, you  
22 will see that the line that says total renewal for the  
23 three working groups totals 31,843 hectares.

24 MS. CRONK: I'm sorry, Mr. Stanclik,  
25 where are you, please, what page?



1 MR. STANCLIK: Page 216.

2 MR. TOMCHICK: Which Exhibit number?

3 MR. STANCLIK: 1212.

4 MS. CRONK: Thank you.

5 MS. SEABORN: Q. I'm sorry, Mr.

6 Stanclik, could you just give me that reference again?

7 I was on the wrong page as well.

8 MR. STANCLIK: A. Exhibit 1212.

9 Q. Yes.

10 A. Page 216.

11 Q. Yes?

12 A. Line total renewal.

13 Q. Yes?

14 A. And it's 31,843 hectares. You will  
15 note at the bottom that total renewal is equal to total  
16 planned net harvest minus 3 per cent for roads and  
17 landings.

18 Q. Yes.

19 A. That's the total area that's renewed,  
20 and then further down on that table you will see the  
21 planned tending as being 10,049 hectares.

22 Q. Right.

23 A. That gives you an idea of how many  
24 hectares relative to the harvest. Now, there is a  
25 second page to this--

1 Q. Yes.

2 A. --which is the NSR area.

3 Q. Mm-hmm.

4 A. You will note under tending there  
5 there are an additional 19,951 hectares. So overall,  
6 when you count the NSR lands there are 30,000 hectares  
7 planned for harvest -- planned for tending versus a  
8 total renewal of 31,843.

9 Q. But going back to the first page, the  
10 tending of harvest ratio is approximately 30 per cent  
11 or so?

12 A. Yes, that's correct.

13 Q. Okay. Now, maybe I'll just -- Mr.  
14 Smith, would that be a comparative figure for your FMA,  
15 30 per cent?

16 MR. SMITH: A. Using a ballpark figure  
17 for harvest of around 8,000 hectares, our tending  
18 program would be in the 2,800 to 3,000 hectares per  
19 year range.

20 Q. Okay. Can you put that into a  
21 percentage for me?

22 A. A percentage?

23 Q. I can't do these things in my head.

24 A. 35 per cent.

25 Q. Okay. Mr. Bunce?

1 MR. BUNCE: A. I'm just trying to figure  
2 out my per cent here.

3 Q. Okay. And, Mr. Ferguson, I'm going  
4 to ask you that as well, so start calculating.

5 MR. FERGUSON: A. I've already got it.

6 MR. FREIDIN: What percentage are we  
7 doing here, this is tending to harvest or tending to  
8 renewal?

9 MS. SEABORN: Tending to harvest.

10 MR. BUNCE: Well, in theory what we're  
11 giving you is tending to renewal.

12 MR. STANCLIK: Yes.

13 MR. BUNCE: And we're making the  
14 assumption that there is some correlation between the  
15 size of the renewal program and the size of the harvest  
16 program.

17 MS. SEABORN: Q. That's right.

18 MR. BUNCE: A. We're not giving you the  
19 actual harvest because we don't have that.

20 Q. No, no, that's right. And I didn't  
21 that have that either, and so that's why we're trying  
22 to see if we can get a ballpark figure.

23 A. So I think I'm looking at somewhere  
24 in the 20 per cent range.

25 Q. Okay.

1 MADAM CHAIR: So this is per cent of --  
2 tending as a percent of renewal.

3 MS. SEABORN: Yes, but the intent is to  
4 know the percentage of tending to harvest.

5 MADAM CHAIR: Is that the next step?

6 MS. SEABORN: I think we've reached that  
7 step.

8 MADAM CHAIR: Excuse me, Mr. Bunce, I  
9 didn't get your last answer.

10 MR. BUNCE: I said it was in the order of  
11 20 per cent.

12 MADAM CHAIR: 20 per cent. Thank you.

13 MS. SEABORN: I think, Madam Chair, what  
14 Mr. Bunce has said is that they are estimating the  
15 harvest to tending based on looking at the numbers for  
16 renewal because there you can compare the harvest and  
17 renewal and do some discounting in there.

18 Q. Is that correct, Mr. Bunce?

19 MR. BUNCE: A. That's basically correct.

20 Q. Mr. Ferguson?

21 MR. FERGUSON: A. I've just done a quick  
22 calculation and mine would be, tending relative to  
23 harvest figures. Our tending program for 1990 is just  
24 under 10 per cent relative to our harvest, it's in the  
25 neighbourhood of about 450 hectares. In the schedule

1       for tending our harvest is about 4,500 hectares.

2                       That must be tempered somewhat in that  
3       our program in 1989, the harvest levels would have been  
4       the same, at about 4,500 hectares; however, no tending  
5       was conducted in 1989. So it would be less than 10 per  
6       cent.

7                       Q. What would the per cent be over five  
8       years if you projected that?

9                       A. Again, I would say it would be less  
10      than 10 per cent.

11                      Q. Okay.

12                      A. The figures, if you were to look at  
13      our report of past operations, might be somewhat out of  
14      line with that and that would be a reflection of some,  
15      what I would call less than desirable regeneration  
16      techniques in the early years of the FMA whereby some  
17      areas were seeded which, due to a lack of using  
18      different planting stock available to us in the early  
19      years of the FMA areas were seeded, if they had been  
20      planted a tending program would not have been  
21      required.

22                      Q. Okay. Mr. Ferguson, based on that  
23      figure then you have given me of approximately 10 per  
24      cent of the area harvested would be tended; is that  
25      correct, to put it in those terms?



1                   A. Well, I would say less than 10 per  
2                   cent.

3                   Q. Okay. Less than 10 per cent of the  
4                   area harvested would actually be tended. Would you  
5                   agree with me then that the way in which the ground  
6                   rules have been set up for your FMA with the notation  
7                   that allows tending for all site descriptions, there's  
8                   a big gap?

9                   And what I'm getting at is that we have  
10                  site descriptions in Table 4.11 that essentially allow  
11                  you to tend any site but then when we start looking at  
12                  what percentage of the area is actually tended, we're  
13                  looking at quite a small area in relation to  
14                  harvesting; would you agree with that?

15                  A. That's right, yes.

16                  Q. Okay. And would you agree with me as  
17                  well that if you could put together site descriptions  
18                  in such a way that they were refined to be able to  
19                  identify more clearly your tending alternative for that  
20                  site, you would be able to be more accurate in terms of  
21                  portraying to the public how much you're going to  
22                  actually tend?

23                  A. The difficulty I have with that is  
24                  that the tending prescriptions which we have conducted  
25                  cover the range of sites and depending on your renewal

1 treatments -- I guess what I'm saying is, the  
2 probability of tending on most of the sites is low,  
3 however, the possibility exists on virtually all the  
4 that sites that tending will be required and it's a  
5 very fine line to predict just exactly...

6 Q. And the possibility of tending  
7 existing I'd suggest exists on all sites because of the  
8 way in which the site descriptions themselves are  
9 formulated. If you broke down the site descriptions to  
10 be provide a greater level of detail, you would then be  
11 able to be more specific as to tending and what kind of  
12 tending you were going to do versus no tending?

13 A. I don't think I would agree with that  
14 proposition that the -- my feeling is that the reason  
15 why tending would be required are not so much a  
16 reflection of the sites as other factors such as maybe  
17 just the influence of climatic conditions and  
18 differences in planting stock and what have you, and  
19 whatnot.

20 It's a very fine line in my situation.  
21 It's very difficult even -- considering all the site  
22 types. As I say, I can think of situations on most of  
23 the site types where some level of tending may have  
24 been required on virtually the identical same site  
25 type, given a little different weather pattern or

1           whatever then the tending's not required. So it's  
2           virtually impossible to predict with any degree of  
3           certainty.

4                       Q. And Mr. Stanclik, just in that regard  
5           as well in terms, of the FMA ground rules that we have  
6           looked at that are now in place for your unit - and, as  
7           I earlier commented, they're quite detailed as to the  
8           chemical that you plan to use and there is an  
9           identification of aerial application of herbicides -  
10          but would you agree with me that except for the  
11          hardwood sites, tending is an option on every site type  
12          based on the site descriptions that you have provided.

13                     MR. STANCLIK: A. That's correct.

14                     Q. And so tending is an option on all  
15          sites harvested, even though as a ballpark figure you  
16          probably are only going to tend 30 per cent of those  
17          sites?

18                     A. Yes, that's absolutely correct.

19                     Q. Okay. And, Mr. Stanclik, the annual  
20          work schedule stage is what we've heard is the area at  
21          which the stands or areas selected for tending are  
22          actually identified; is that correct?

23                     A. Yes, that's correct.

24                     Q. Okay. And 30 days prior to the spray  
25          program there are notices required to be published in

1 and certain landowners are notified; is that correct?

2 A. That's correct.

3 Q. Okay. And would it be fair to say  
4 that at this stage - and I'm just dealing with  
5 herbicides - at this stage, would it be fair to say  
6 that you're not asking for public input with respect to  
7 tending, you're informing the public of the aerial  
8 spray program that is going to be undertaken; is that  
9 correct?

10 A. Yes. The public input comes at the  
11 general stage of the timber management plan at which  
12 they can examine where we intend to tend and where we  
13 expect we will be tending, and then again when the  
14 annual work schedule is approved and open for  
15 inspection in April.

16 Q. Now, just dealing with that about the  
17 annual work schedule stage. During the renewal panel  
18 Mr. Freidin asked Mr. Waddell a question that I was  
19 going to ask in this panel, but I think I'll deal with  
20 it again, and it was a question in relation to public  
21 input.

22 MS. SEABORN: And, Madam Chair, I'm  
23 referring to Volume 201 of the transcript beginning at  
24 page 35771.

25 MS. CRONK: Give me a minute.

1 MS. SEABORN: Yes.

2 MS. CRONK: Sorry.

3 MS. SEABORN: Q. I'll read the question  
4 in, as I understand not everyone has it here.

5 Mr. Freidin asked the question twice.  
6 The first time he asked it Mr. Hanna objected because  
7 it sounded like a tending question to him, and then --  
8 it was quite a long question, and because everyone had  
9 trouble getting it down Mr. Freidin went again with the  
10 question. And I'll read it in:

11 "Let me put it this way: I will try to  
12 make it very short. If you spend a lot  
13 of money putting in a plantation in the  
14 first and second year of your plan  
15 because it was approved to do so and your  
16 silvicultural ground rules also say that  
17 you can aerial tend it, is it acceptable  
18 to you that in the third year when you  
19 want to aerial tend it someone can come  
20 along and say: No, no, you can't do  
21 that?"

22 And Mr. Waddell said:

23 "No, it certainly is not. It would  
24 severely handicap our ability to manage  
25 our conifer plantations. The tending



1 package is put forth in the five-year  
2 plan but the specifics of it go to the  
3 annual work schedule and that goes into  
4 the Ministry by the 1st of December and  
5 normally the tending is carried out the  
6 following late July or August, and if the  
7 the interim we were unable to carry out  
8 the proposed tending program, that  
9 plantation could, and undoubtedly would,  
10 suffer growth loss and certainly some  
11 mortality from the hardwoods crowding in  
12 on them. So it would be a most  
13 undesirable situation for forest managers  
14 across Ontario."

15 Now, Mr. Stanclik, would you agree with  
16 Mr. Waddell's position with respect to the issue of  
17 someone coming in say in the third year and saying:  
18 No, no you can't do that?

19 MR. STANCLIK: A. Yes, I would.

20 Q. Okay. And, Mr. Smith, would you  
21 agree with Mr. Waddell's evidence in this regard?

22 MR. SMITH: A. Yes, I would.

23 Q. Mr. Bunce?

24 MR. BUNCE: A. What was your question  
25 there? Are you asking me if I would answer the

1 question the same as Mr. Waddell, or you asked another  
2 question.

3 Q. Is there anything in Mr. Waddell's  
4 answer you would take issue with?

5 A. Well --

6 Q. Let me put it this way: Mr. Freidin  
7 put the proposition to Mr. Waddell as to whether in his  
8 mind it was acceptable that someone could come along in  
9 the third year of a plan when you want to aerial tend  
10 and say: No, no, you can't do that.

11 And I take it from Mr. Waddell's answer  
12 he is saying that -- I don't take it, he did say: It  
13 would severely handicap our ability to manage our  
14 conifer plantations. The tending package is put forth  
15 in the five-year plan.

16 A. Yes, to find out at that late a stage  
17 would certainly handicap our ability to manage forest.

18 Q. Okay.

19 MR. TOMCHICK: A. On the other hand,  
20 however, I think we would want to maintain that  
21 flexibility not to tend right -- as close as we could  
22 to the date that we are planning to tend, we have to.

23 Q. And, Mr. Stanclik, would you agree  
24 with me that the extent to which the public can  
25 participate and provide input into your maintenance

1 program depends, to some extent, on the level of detail  
2 that is presented at the five-year planning stage?

3 MR. STANCLIK: A. Yes, that would be  
4 true. It would depend on how much detail you felt that  
5 was necessary for the public to have.

6 Q. And would you agree that if you want  
7 to avoid a situation of the public coming along during  
8 the term of the plan and raising objections at the  
9 annual work schedule stage, it would be helpful to be  
10 as clear as possible at the five-year stage with  
11 respect to your tending program?

12 A. With respect to the tending program  
13 and the prescriptions, you must realize that because of  
14 the site conditions we need some flexibility.

15 Q. I understand the flexibility issue  
16 and I'm not taking issue with it, but what I am  
17 concerned about is that if you can maintain your  
18 flexibility but still prepare your site descriptions in  
19 such a way as to allow your tending prescription to be  
20 as informative to the public as possible, then doesn't  
21 that really help everyone, in the sense that the public  
22 is informed and there is less risk for the company  
23 during the five-year planning process of an individual  
24 coming along and saying: Hey, wait a minute, we didn't  
25 know anything about using this chemical or this

1 particular herbicide, we are not too happy about that  
2 and we want to raise a concern?

3 A. Yes, that would be true.

4 Q. Okay.

5 MR. BUNCE: A. May I add something  
6 there?

7 Q. Sure.

8 A. When you talk about the level of  
9 detail and such, I think the example that I had shows  
10 one situation where if you put the year in that you  
11 think is going to happen you have to be careful  
12 because, as we said earlier, there is so many  
13 conditions that may change the fact that it wasn't in  
14 the third year, it was in the second year or the fourth  
15 year, that you can't get too specific or you will not  
16 be able to follow this prescription.

17 Q. No, I understand your concern about  
18 not tying your hands, but would you agree generally  
19 with Mr. Stanclik, that the extent to which you can  
20 refine your site descriptions and refine those ground  
21 rules so that you're conveying as much information as  
22 possible to the public, that would not only be in the  
23 public's best interest but it would be in the FMA  
24 holder's best interest as well because you would  
25 avoid -- you may very well avoid problems later on when

1           you're trying to implement that plan?

2                   A. Yes. I'm just not sure at the  
3           silvicultural ground rule table stage it's necessary at  
4           that stage to talk about that. There are other places  
5           in the plan, for example of past operations, where the  
6           last five years the amount -- the levels of treatments  
7           were done; in other words, how much tending was carried  
8           out aerially, how much tending was carried out  
9           manually. So that there are numbers like that.

10                   Q. Okay. There may be lots of different  
11           ways of documenting that information, but certainly in  
12           terms of someone reviewing a plan to have a look at  
13           what's going to happen over the next five years,  
14           history may be useful, but it would be my sense that  
15           the first thing that someone would go to is: Let's  
16           have a look at what's planned for the next five years,  
17           rather than what happened in the past five years.

18                   MR. BUNCE: A. Yes, that's true, in fact  
19           it seems in a lot of cases also they like to look at  
20           the maps and it does show on the maps where the areas  
21           are potentially for tending. And specifically, if they  
22           have a problem in that area, it can be addressed -- it  
23           is addressed at that time.

24                   So, for example, if somebody comes in and  
25           says: I'm interested in this area, they can look at



1 the map and see the area is scheduled for harvesting or  
2 renewal or for maintenance. If they have a problem  
3 with any one of those it is handled at the five-year  
4 planning stage; in other words, they may say: I don't  
5 particularly like this type of tending for this reason  
6 and that reason, and the planning team takes that into  
7 consideration when they cover those things.

8 Q. No, I understand that. But if the  
9 only information they have is tend if necessary with no  
10 further details, then they may be able to raise an  
11 objection in terms of: I'm not too happy with you  
12 tending close to this area, but they won't have any  
13 idea what you have in mind, they won't know whether  
14 it's manual, whether it's aerial application of  
15 herbicides, they don't know --

16 A. They would know, I hope, because  
17 hopefully the author and the Ministry people are at the  
18 open house and they would give them some information,  
19 or if it isn't apparent what we've done before, and we  
20 also say in the plan, for example, given the forecast  
21 we plan to tend, and it is in our best estimation  
22 aerial or ground or whatever. So it is there.

23 Q. That's right. And I think that's the  
24 point I'm trying to make is that a lot of that  
25 information is there, but it's all over the place. You

1 can talk to people at open houses, you can read through  
2 the plans, you have got to somehow have a product that  
3 someone can look at and get an idea of this whole  
4 package.

5 We have just been through four activities  
6 panels with respect to the Industry case and from my  
7 client's viewpoint we like to look at the whole package  
8 of these activities, and how can someone understand in  
9 a comprehensive way what's going to go on out there and  
10 in normal operating areas.

11 MR. TOMCHICK: A. If I could just add a  
12 little bit to that.

13 Q. Sure.

14 A. At the five-year planning stage, the  
15 areas that could potentially be tended are shown on.  
16 maps, they are relatively -- there's only five years  
17 that those maps cover, there's only two chemicals that  
18 we would apply - possibly three - there's only a few  
19 types of application equipment or methods that we use.

20 If the public had any concern with any of  
21 those or any combinations of those on any of those  
22 areas, we would take that into consideration and that's  
23 the kind of information that we would love to have and  
24 look for.

25 Q. Mr. Bunce, just following up on your

1 comment with respect to the maps, if areas aren't shown  
2 on the map but you want to tend, you end up deciding to  
3 tend that particular area but it's not identified on  
4 the map at the five-year stage, would you agree with me  
5 that as long as that option is in the ground rules the  
6 way they are currently set up you could tend that area  
7 without getting a plan amendment?

8 MR. BUNCE: A. The best I can give you  
9 is my interpretation. It's my understanding that if an  
10 area is not shown at the five-year planning stage that  
11 it would require tending in that five-year period, it  
12 would require an amendment of some sort to the  
13 five-year plan or the timber management plan to allow  
14 for that tending to take place.

15 Q. Even if the site description for that  
16 particular area was identified in the ground rules,  
17 silvicultural groundrules?

18 A. It is my understanding that if I  
19 would like to tend an area that I did not show in the  
20 five-year plan on a map, that I would not be able to  
21 tend it unless there was some sort of amendment to the  
22 timber management plan.

23 Q. Okay. And from your experience,  
24 would that be a major or a minor amendment? Do you  
25 have any knowledge in that regard?

1                   A. I have no experience in that as I've  
2 just finished a new plan and we are just starting into  
3 the stages of it. I would not know and I can't speak  
4 for the district manager who decides whether it's a  
5 minor or major amendment.

6                   Q. And, Mr. Bunce, did you say that you  
7 would normally identify all the areas that would be  
8 potentially tended? Did you give that evidence?

9                   A. As part of the planning process--

10                  Q. Yes.

11                  A. --of the timber management plan, it  
12 is my understanding that all of the areas that are  
13 planned for harvest, planned for renewal, planned for  
14 maintenance - when I speak of maintenance I'm not  
15 talking about protection or anything - are identified  
16 on a set of maps at the five-year planning stage.

17                  Q. Okay. And in your experience, what  
18 percentage of the areas that would be identified for  
19 tending would actually be tended? Can you give any  
20 estimate of that?

21                  A. No, but I could definitely tell you  
22 that there are -- we show all of the areas we feel have  
23 the potential of tending.

24                  Q. That's right.

25                  A. In the event that we don't want -- we

1 want to make sure that if there's a potential of  
2 tending that area, we would like the people at the  
3 five-year planning stage to know that there is even a  
4 potential for tending.

5 Q. I know. And I guess we are coming  
6 back to my original point with the groundrules, would  
7 you agree with me it may be, based on what I have seen  
8 from Table 4.11, you may identify 90 per cent of your  
9 harv -- where you intend to harvest as a potential for  
10 tending, but at the end result you may only tend 25 per  
11 cent of that area?

12 A. Yes, but isn't that in the public  
13 interest so that the public realize that there is a  
14 potential in any of those areas to tend. And if they  
15 have a problem with it, then the problem is addressed  
16 regardless of whether we tend or we don't tend.

17 Q. Well, what I am suggesting is that if  
18 you refine your site descriptions and refine your  
19 silvicultural groundrules to add a few more specifics,  
20 then you could be more accurate in terms of forecasting  
21 those areas for tending?

22 I think we have been around that and I  
23 have your response to that.

24 A. The theory I have is we don't end up  
25 more accurate, we end up more inaccurate; in other



1 words, we end up picking the wrong places and we end up  
2 getting more and more amendments because the area that  
3 we thought probably wouldn't need tending does need  
4 tending, and the public didn't get the opportunity to  
5 realize that it possibly could have needed tending at  
6 the five-year planning stage. That's fear I have.

7 Q. I guess from the public's point of  
8 view you may very well get the response from the  
9 public: Well, it doesn't help me much to have you say  
10 that you may be aerially spraying herbicides in every  
11 single area you harvest, the public may say: That  
12 doesn't really tell me very much in terms of how I can  
13 focus an objection?

14 A. Okay, but that is not all we tell  
15 them. We also tell them -- give them a number in the  
16 table that you referred to of the area that we actually  
17 think -- the amount of area we actually think is going  
18 to be tended in the five-year period.

19 So we also give them a forecast of what  
20 we think the level would be, but we can't possibly pick  
21 each one of those 5,000, 8,000 hectares and say at the  
22 five-year period: These are the ones that it is going  
23 to be. We don't know that. We can't predict that at  
24 the five-year stage.

25 Q. I understand that and I don't think

1           that's what I've been suggesting.

2                       Just following with respect to  
3           herbicides. Mr. Tomchick, could you turn to Exhibit  
4           1133 which are the proposed terms and conditions for  
5           OFIA?

6                       MR. TOMCHICK: A. I have it.

7                       Q. I want to ask a question of  
8           clarification with respect to No. 22. Do you have that  
9           in front of you?

10                      A. Yes.

11                      Q. Your term and condition No. 22 speaks  
12           to the analysis and consideration of management options  
13           and alternative tending options where there is a debate  
14           over the use of herbicides.

15                      "The OMNR shall ensure that an analysis  
16           and consideration of the potential  
17           effects of not utilizing herbicides in a  
18           proposed tending operation are carried  
19           out."

20                      Now, at what stage of the planning  
21           process are you suggesting that this analysis would be  
22           done?

23                      A. I did not write this term and  
24           condition. It is my understanding that this is at the  
25           five-year stage.

1                   Q. That's interesting, at the five-year  
2 stage. Would you agree with me that in terms of  
3 alternative tending options, in order to do the  
4 analysis that the OFIA is suggesting, you would have to  
5 have in your mind a particular list of tending options  
6 then at the five-year stage?

7                   A. That is correct.

8                   MS. SEABORN: Madam Chair, I have a few  
9 questions for Dean Carrow with respect to insecticides.  
10 I note that it's past noon, would you -- I would prefer  
11 to finish and break for lunch, but I am in the Board's  
12 hands.

13                  MADAM CHAIR: I think we should finish.  
14 How much longer do you think you will be?

15                  MS. SEABORN: Ten minutes or so, I hope.

16                  MADAM CHAIR: All right. And, Ms. Cronk,  
17 how much time will you need to prepare your  
18 re-examination, if we are finished by -- how long would  
19 you need, would you need more than our hour and a half?

20                  MS. CRONK: Sorry, Madam Chair, no, I am  
21 ready to begin now. I mean, an hour for lunch is fine.

22                  MADAM CHAIR: Would you prefer a shorter  
23 lunch rather than an hour and a half?

24                  MS. CRONK: An hour would be fine. If  
25 the Board prefers an hour and a half, that's fine, too.

1 I'd prefer an hour just to make sure I get finished.

2 MADAM CHAIR: Thank you.

3 MS. SEABORN: Q. Dean Carrow, could we  
4 have a look at Table 11 on page 170 of the witness  
5 statement.

6 DEAN CARROW: A. Yes, I have it.

7 Q. Now, do you know, with respect to the  
8 areas sprayed, whether the areas include both Crown  
9 land and county or private land?

10 A. Are you talking about that entire  
11 program, Ms. Seaborn, from 1982 on or...

12 Q. Well, let's work backwards and just  
13 say, for 1989, would you know this includes just Crown  
14 lands sprayed or private lands sprayed as well?

15 A. My understanding of that program in  
16 recent years is that it includes a mix of both  
17 privately owned land and Crown land.

18 Q. So we are not to take from this table  
19 then that in 1989, 12,951 hectares were sprayed with  
20 B.t. on Crown land?

21 A. That's correct.

22 Q. Okay. And in relation to the Crown  
23 land component, would you agree that the program, as  
24 now formulated in Ontario, is aimed largely at  
25 provincial parks and conservation areas and wildlife

1 areas for foliage protection purposes?

2 A. To the best of my recollection I  
3 would agree with that, yes.

4 Q. So would you agree that today the  
5 major thrust of the gypsy moth spray program, at least  
6 within the area of the undertaking, would be directed  
7 towards aesthetics rather than the protection of wood  
8 supply?

9 A. Well, most of that program, Ms.  
10 Seaborn, of course is outside of the area of the  
11 undertaking. A relatively small amount of it, I think,  
12 you would find is within the southern part of the area  
13 of the undertaking, but with that particular condition  
14 I would agree that it's for non-timber values.

15 Q. Now, in terms of protection  
16 operations, Dean Carrow, I wanted to ask you a couple  
17 of questions in relation to the evidence regarding  
18 bump-up.

19 Now, as I understand the planning  
20 process, you can't predict protection operations any  
21 earlier than the annual work schedule stage; is that  
22 correct?

23 A. Which is December 1st?

24 Q. I believe that's the date.

25 A. That's the date you are referring to?



1 Q. Yes.

2 A. Could we confine this, for the  
3 purpose of this discussion, to something like spruce  
4 budworm, just so we have a...

5 Q. Yes, keeping in mind the --

6 A. Or do you want to keep it more  
7 general than that?

8 Q. I would like to keep it general, but  
9 also keeping in mind the evidence of the panel this  
10 morning about what they forecast at a five-year level.

11 I believe their evidence was that they  
12 are not going to be forecasting unless they know they  
13 have got a problem such as a spruce budworm. They are  
14 not going to be forecasting their protection operations  
15 five years in advance; is that fair?

16 A. That's what the representative have  
17 said, testified to, that's right.

18 Q. Okay. And the way the planning  
19 process is set up, there is a separate planning process  
20 with respect to protection operations; is that correct?

21 A. That's my understanding, yes.

22 Q. Okay. And we looked at -- the MNR  
23 terms and conditions relating to protection were filed  
24 as Exhibit 1132, in particular condition 38 as it  
25 relates to protection?

1 A. Yes, I have that.

2 Q. And condition 38(b) proposed by MNR  
3 provides for bump-up in relation to an aerial  
4 application of an insecticide spray program; is that  
5 correct?

6 A. That's right.

7 Q. And the Industry has concerns about  
8 the bump-up provision and those are set out in your  
9 evidence and you have answered some questions in that  
10 regard this morning.

11 Now, the protection planning process, as  
12 it is now set up, allows for a public information  
13 centre prior to a decision under condition 38(a)(1) and  
14 then public inspection of MNR's approved protection  
15 program.

16 Now, would you agree with me that if a  
17 member of the public comes into that public information  
18 centre and has concerns about the protection program,  
19 if they know that there is no ability to ensure that  
20 their concerns are taking into account through a  
21 mechanism such as a bump-up, would you agree with me  
22 they may be more skeptical of the point of having a  
23 public information centre in the first place?

24 A. That's almost contrary to my personal  
25 experience over many, many years, Ms. Seaborn, with my

1 own personal involvement in operational spray programs,  
2 planning and supervising them.

3 And, as a matter of fact, the opportunity  
4 provided to the public, in my own experience, to come  
5 in and examine the proposal, to raise their concerns  
6 with the managers about areas that they may have  
7 particular concern about with respect to insecticides  
8 or values that they may have particular concern about,  
9 in my own than experience, have always been  
10 accommodated by the managers.

11 The rationale for that being that if you  
12 are planning a 10,000-hectare program and a member of  
13 the public has a concern about his or her woodlot or  
14 his or her hunting operation, for example, there would  
15 be absolutely no sense whatsoever in not accommodating  
16 that value because the other option is that it would  
17 jeopardize the whole program.

18 Q. Well, isn't then the fear of --  
19 Industry's fear of having the program held up as a  
20 result of the bump-up request, based on your  
21 experience, not something that they really need to  
22 worry about?

23 A. As a matter of fact, in other  
24 jurisdictions where I've seen provisions for this type  
25 of action, it isn't referred to as a bump-up, but I

1 have seen provisions for this type of action, in fact  
2 it has been used deliberately to disrupt operations and  
3 it has worked very effectively in the past to cancel  
4 operations for a whole year.

5 Q. Just one last question on this point.  
6 Would you agree with me that there would be a higher  
7 likelihood of bump-up request or, as you put it, a  
8 deliberate use of that mechanism to disrupt operations,  
9 if you are using chemical insecticides as opposed to  
10 B.t?

11 A. A higher probability of using the  
12 bump-up mechanism?

13 Q. Yes. There is a higher probability  
14 of interference with your program if you are using  
15 chemical insecticides as opposed to spraying B.t?

16 A. I would say, as a general  
17 proposition, I would agree with you. I wouldn't want  
18 to try to predict what public concerns might arise in  
19 the future, though, with respect to particularly aerial  
20 application of materials.

21 Q. And, Dean Carrow, I had one question  
22 for you in relation to OFIA's proposed terms and  
23 conditions, in particular term and condition No. 85?

24 A. Yes, I have that.

25 Q. And the last sentence says:

1 "The OMNR shall consider the use of  
2 chemical insecticides and may use  
3 chemical insecticides for protection  
4 of the timber resource in those  
5 circumstances where no other effective  
6 insecticide is available or practical and  
7 subject to compliance with all applicable  
8 federal and provincial regulatory  
9 controls."

10 Leaving leaving aside for a moment the  
11 issue of any Cabinet or ministerial statements in  
12 relation to chemical insecticides, am I correct that  
13 this term and condition is one that is essentially in  
14 support of MNR's current policy which is found at  
15 Appendix C, I believe, of the witness statement?

16 A. Yes, I'm familiar with that.

17 Q. Yes.

18 A. Yes, I think the spirit of that, Ms.  
19 Seaborn, is very similar to what's contained in the  
20 Ministry's policy statement.

21 Q. Okay. And given that, would you  
22 agree that in terms of chemical insecticides, the  
23 thrust of Industry concerns is not so much with current  
24 MNR policy in that regard, but with what has been  
25 termed political announcements with respect to the



1 issue?

2 A. Yes, I would certainly agree with  
3 that; in other words, the Industry is in support of the  
4 policy as stated, the difficulties arisen through  
5 political decisions which prohibit the use of, as Mr.  
6 Freidin has pointed out, the aerial application of  
7 chemical insecticides.

8 Q. Thank you.

9 MS. SEABORN: Thank you members of the  
10 panel.

11 Thank you Madam Chair, Mr. Martel.

12 MADAM CHAIR: Thank very much, Ms.  
13 Seaborn.

14 Just one quick matter before we break for  
15 lunch.

16 The issue came up a little while ago, Mr.  
17 Bunce, about what Mr. Waddell had said in previous  
18 evidence about whether or not some programs had been  
19 approved. The Board's understand of that evidence was  
20 that he was talking about approval for funding for  
21 regeneration, he wasn't talking about approval for  
22 groundrules or approval for the timber management plan.  
23 He was talking about what the size of the budget would  
24 be and what the rates of payment would be to the  
25 companies.

1 MR. BUNCE: And that still isn't, as far  
2 as I know.

3 MADAM CHAIR: But that's what he was  
4 talking about. That's our view.

5 MR. BUNCE: That could well have been --

6 MS. CRONK: I didn't rise, Madam Chair,  
7 because I couldn't recall.

8 MADAM CHAIR: But that was my -- not that  
9 there were any problems with approving groundrules.

10 MS. SEABORN: Madam Chair, if I could  
11 just read into the record, there is a question that Ms.  
12 Cronk directed to Mr. Waddell during her re-examination  
13 of Panel 8 and the question was:

14 "And, Mr. Waddell, with respect to your  
15 evidence concerning the contents of the  
16 FMA for your company for 1990 to 1995,  
17 have the groundrules been finalized?"

18 And Mr. Waddell's response was:

19 "I wouldn't say they have been  
20 finalized, we haven't got final approval  
21 from MNR yet."

22 MADAM CHAIR: Well, my recollection is  
23 before, in the discussion before that. It was  
24 specifically about rates of payment for renewal and  
25 what the total amount of funding would be.

1 MS. CRONK: The two aren't inconsistent,  
2 Madam Chair, because the groundrules that Mr. Waddell  
3 was referring to would have included those matters.

4 MADAM CHAIR: Yes. I just wanted to make  
5 that clear because if there weren't approval for the  
6 FMA and everything in it they wouldn't be going ahead,  
7 you know, with very much. I didn't understand what you  
8 are talking about.

9 MS. SEABORN: I wasn't concerned about  
10 whether or not the -- I was concerned from the  
11 statement that -- I wanted to be sure from the  
12 statement Mr. Waddell made and from the evidence of  
13 these witnesses that, first of all, I had the right  
14 groundrules and I had the right plan and we were  
15 talking about the same thing.

16 I think we were talking about the same  
17 thing and there was a difference in terminology in  
18 terms of other aspects, other than Table 4.11, that may  
19 not be approved yet.

20 MADAM CHAIR: Yes.

21 MR. FREIDIN: If I just might, Madam  
22 Chair.

23 MADAM CHAIR: Please do, Mr. Freidin,  
24 because it comes back to your point. We've had this  
25 continuing discussion since day one--

1 MR. FREIDIN: Right.

2 MADAM CHAIR: --and my suggestion - you  
3 can speak in a minute - my suggestion would be, if the  
4 other parties doesn't disagree, that you would present  
5 to the Board with their approval a brief glossary of  
6 terms having to do with the groundrules with respect to  
7 the FMAs, with respect to timber management and using,  
8 if you want, the example of Table 4.11 and some of the  
9 other documents we have received.

10 MR. FREIDIN: I would be most pleased to,  
11 in a written form, describe what the differences are.

12 Just while I am on my feet, there is also  
13 clear evidence before the Board that you have got Table  
14 4.11 in the timber management plan and that is the  
15 document which indicates -- controls your operations.

16 There are silvicultural specifications  
17 which are similar in the FMA groundrules. You can  
18 negotiate those FMA groundrules until you are blue in  
19 the face and they may -- if they end up being  
20 different, you can't implement them, you've got to  
21 comply with the silvicultural groundrules. And if you  
22 end up negotiating something which is a little bit  
23 different, you've got to amend your timber management  
24 plan. That's undisputed as well.

25 MADAM CHAIR: Well, I think if you could

1 get agreement from the parties on those definitions,  
2 Mr. Freidin, submit them to the Board and we will just  
3 refer to an exhibit each time this discussion arises.

4 MR. FREIDIN: We will see if we can get  
5 their -- if they agree with everything I say, then  
6 maybe we can end the hearings tomorrow.

7 MADAM CHAIR: thank you very much.

8 Ms. Cronk, is it agreeable to you if we  
9 break now and we come back at 20 after one?

10 MS. CRONK: Yes, that would be fine,  
11 Madam Chair. Thank you very much.

12 MADAM CHAIR: Thank you.

13 ---Luncheon recess taken at 12:20 p.m.

14 ---On resuming at 12:25 p.m.

15 MADAM CHAIR: Please be seated.

16 Ms. Cronk, just one matter before you  
17 begin, it will just take a second.

18 Ms. Seaborn, the Board had a question.  
19 In the interest of helping us determine how counsel  
20 organize their cross-examinations and estimate their  
21 time, did you go over the time you thought it would  
22 take this morning, or is that an accurate amount of  
23 time that you had estimated in planning how long your  
24 cross-examination would take?

25 MS. SEABORN: I think I went over. I



1 think my original estimate had been two to three hours  
2 and then I brought that estimate down based on a number  
3 of question Ms. Kleer had asked; however, I think I was  
4 two hours and 15 to 20 minutes.

5 MADAM CHAIR: Okay, thank you.

6 Ms. Cronk?

7 REDIRECT EXAMINATION BY MS. CRONK:

8 Q. Gentlemen, it has been a while, but I  
9 will try not to be any longer than need be.

10 If I could start first with a number of  
11 questions for the Industry representatives on the panel  
12 relating to matters that were raised this morning by ms  
13 Seaborn. Ms. Seaborn put a number of questions to you  
14 regarding the level of detail provided for in the  
15 silvicultural groundrules forming part of your  
16 respective timber management plans.

17 Mr. Bunce pointed out, with respect to  
18 Exhibit 1216 which, you will recall, contained the  
19 forecast table for his timber management plan, that  
20 that table showed that chemical site preparation was to  
21 be carried out by what method; that is, aerial or  
22 ground and the extent, how much.

23 Mr. Stanclik, is that also true of the  
24 forecast table in your timber management plan with  
25 respect to site preparation?

1 MR. STANCLIK: A. Yes, it appears in the  
2 same format.

3 Q. Mr. Smith, is that also true of your  
4 forecast table in your timber management plan?

5 MR. SMITH: A. Yes, it is.

6 Q. Mr. Ferguson, several questions along  
7 this line were directed to you as well with respect to  
8 tending. In the forecast table for your timber  
9 management plan, are similar or dissimilar details set  
10 out as those we've discussed?

11 MR. FERGUSON: A. The details would be  
12 similar to those. There is a forecast of that nature  
13 provided in the table and, as I indicated, that would  
14 be a maximum level.

15 Q. There seems also will to be an issue  
16 about where information should be contained in the  
17 timber management plan, as well as at what level of  
18 detail.

19 Mr. Bunce, perhaps I could address this  
20 initially to you. Have you are participated on behalf  
21 of your company in open houses regarding your timber  
22 management plan for your FMA?

23 MR. BUNCE: A. Yes, I have.

24 Q. All right. Do you have, based on  
25 that experience, any reason -- sorry, let me rephrase

1           it. Based on that experience, is it, in your view,  
2           appropriate or inappropriate to assume that members of  
3           the public read only the groundrules to a timber  
4           management plan?

5                       A. From my observations, I would  
6           certainly say that they don't necessarily only read the  
7           groundrules, there are many things there that they look  
8           at. In fact, one of the major things they seem to  
9           focus in on are the maps and values and things and the  
10          relationships of them -- the two, the values and the  
11          harvesting and other regeneration and tending  
12          operations that have been carried out.

13                      Q. Is the experience of the other  
14          Industry representatives the same or dissimilar to that  
15          that Mr. Bunce has described? Perhaps you can indicate  
16          if it is dissimilar.

17                      MR. SMITH: A. We have a similar  
18          experience.

19                      Q. A similar?

20                      A. Similar.

21                      Q. Perhaps we better do this formally.  
22          Mr. Stanclik, is your experience similar or dissimilar?

23                      MR. STANCLIK: A. Yes, it's similar.  
24          The same as Mr. Bunce, they are particularly interested  
25          in the maps.

1 Q. Mr. Ferguson?

2 MR. FERGUSON: A. Very similar. The  
3 maps are the key item, in my opinion, and hold the bulk  
4 of the information. Further specifics can be gained by  
5 going into additional portions of the timber management  
6 plan, but the maps are definitely the key.

7 Q. Mr. Tomchick?

8 MR. TOMCHICK: A. I agree with Mr.  
9 Ferguson and Mr. Bunce.

10 Q. Are there any of you, leaving aside  
11 Mr. Bunce, who has not personally participated in an  
12 open house regarding your timber management plans?

13 (no response)

14 The record should indicate no.

15 Mr. Ferguson, still dealing with the same  
16 general issues raised by Ms. Seaborn. In your opinion,  
17 at the five-year planning stage regarding a timber  
18 management plan, can you say with certainty that any  
19 particular site type on your forest management  
20 agreement area will or will not require tending?

21 MR. FERGUSON: A. No, I cannot.

22 Q. Mr. Bunce?

23 A. Could you repeat the question,  
24 please?

25 Q. Yes. At the five-year planning

1 stage, we are talking timber management plans, can you  
2 say with certainty that any particular site type on  
3 your FMA will or will not require tending?

4 MR. BUNCE: A. Only in generalities, not  
5 with any certainty could I tell you a specific area,  
6 no.

7 Q. Mr. Smith.

8 MR. SMITH: A. With certainty, no.

9 Q. Mr. Stanclik?

10 MR. STANCLIK: A. No, I cannot.

11 Q. Mr. Tomchick?

12 MR. TOMCHICK: A. No.

13 Q. Mr. Bunce, at the five-year  
14 planning -- I'm sorry, just on that point then.

15 A number of questions were put to you  
16 this morning by Ms. Seaborn regarding the concept of  
17 greater refinement, to use her language, greater  
18 refinement of the silvicultural categories or  
19 classifications contained in the timber management plan  
20 documentation.

21 Assume that that occurred and that there  
22 were more categories, more classifications. Mr. Bunce,  
23 were that the case, would your answer to the last  
24 question be any different? What I mean by that is,  
25 could you in those circumstances, assuming that, in



1       those circumstances could you say with certainty that  
2       any particular site type on your FMA would or would not  
3       require tending?

4               MR. BUNCE:  A.  Not with any degree of  
5       certainty could I say any specific area would or would  
6       not have tending.  I could only give generalities again  
7       on these specific areas.

8               Q.  Are the views of the other Industry  
9       representatives different from Mr. Bunces's and, if so,  
10      would you indicate so.

11              (no response)

12              Again the record should indicate no,  
13      Madam Chair.

14              Mr. Bunce, at the five-year planning  
15      stage, can you say with certainty what chemical will be  
16      used if herbicide treatments are carried out on your  
17      FMAs?

18              MR. BUNCE:  A.  I could certainly give an  
19      indication of the chemicals that we have used and we  
20      plan to use during the five-year planning period, but  
21      not necessarily on a specific site could I tell you  
22      which chemical would be used during the five-year  
23      period.

24              However, I could tell you with some  
25      certainty at this point the chemicals that are

1 available and we would consider for use in the  
2 five-year period.

3 Q. Mr. Smith?

4 MR. SMITH: A. No, we couldn't with a  
5 great deal of certainty tell you what chemicals that we  
6 would use five years in advance of doing the project.

7 Q. Mr. Tomchick?

8 MR. TOMCHICK: A. We could certainly  
9 give our opinion of what we think might be used there,  
10 but not with any degree of certainty could we give you  
11 that information.

12 Q. Mr. Bunce, again starting with you,  
13 if I might. From an individual company's perspective,  
14 based on your experience, is it important or  
15 unimportant that what is contained in the forecast  
16 table of a timber management plan be as accurate as  
17 possible?

18 MR. BUNCE: A. I think the forecast has  
19 to reflect the best information you have at the time,  
20 and I guess on that point it is as accurate as you can  
21 put it. However, I must note that it is a forecast and  
22 it's very hard to predict five years in advance of  
23 anything, but I would say it's fairly accurate, yes.

24 It needs to be fairly accurate in the  
25 sense that you want to be able to identify all of the

1 possibilities that you may carry something out. For  
2 example, as I thought I mentioned earlier, just  
3 dealing -- with regard to tending, you need to give as  
4 good an indication as you can, not only just to give  
5 the public an add idea of what's happening, but it also  
6 gives you some idea after the five years are over of  
7 what kind of planning has taken place and what kind of  
8 prediction you can make on a five-year level.

9 Q. Mr. Tomchick, your attention this  
10 morning was drawn to OFIA term and condition, in draft  
11 form, No. 82, if you recall. I am no sure you need it  
12 in front of you, but if you wish to, that's fine.

13 MR. TOMCHICK: A. I have that.

14 Q. You indicated that you did not  
15 personally prepare that condition. You said that you  
16 understood it was to apply at the five-year stage.

17 Are you sufficiently familiar with the  
18 background to that condition to be certain that that is  
19 the case, or would you defer to the author of that  
20 condition?

21 A. I would prefer to defer to the author  
22 of this condition. However, as I understand it, we are  
23 simply saying here that if there is a debate over the  
24 use of herbicides in the planning stage, that the  
25 consequences of not using the herbicide should be

1 considered in that debate.

2 Q. Thank you. Mr. Hanna -- still  
3 dealing with the Industry representatives. Mr. Hanna  
4 had a number of questions for the panel regarding the  
5 predictability of future competition conditions and  
6 again, Mr. Bunce, if I could start with you.

7 Leaving aside NSR lands, and I am talking  
8 now about future competition conditions, at the  
9 five-year planning stage, can you tell with any  
10 certainty what competition will be present on a site at  
11 the time within that five-year period when you will  
12 wish to tend?

13 MR. BUNCE: A. You can give general  
14 indications of what the competition may be like using  
15 things such as the species that are on the site at the  
16 time, the conditions that are there present.

17 However, you certainly can't predict at  
18 the five-year stage exactly what the competition will  
19 be at year three or at year four or five, but you could  
20 certainly given some general indications of what you  
21 would expect with the certain amount of competition  
22 going on.

23 Q. Does the level and type of  
24 competition vary over time?

25 A. It certainly does.



1 Q. Do any of the other Industry  
2 representatives disagree with the evidence just given  
3 by Mr. Bunce and, if so, could you indicate.

4 (no response)

5 Again, there is no indication of  
6 disagreement.

7 Q. Again still dealing with this  
8 morning. Dean Carrow, if I could turn to you regarding  
9 the need for a foliage protection standard and you  
10 recall -- I should ask you. There was a lengthy  
11 discussion with Mr. Freidin regarding the evidence  
12 given by Mr. Churcher on that issue and the position  
13 taken by the Industry in light of that evidence.

14 If it turns out, if it turns out that the  
15 25 to 75 per cent numbers discussed by Mr. Churcher  
16 with reference to foliage protection or foliage  
17 preservation were not meant by him to be an indication  
18 of a standard, but rather represented a range within  
19 which foliage preservation results would be considered  
20 acceptable in this province, would that change in any  
21 way the opinions that you have expressed to the Board  
22 regarding the need for a quantified standard and, if  
23 so, in what way would your opinions change?

24 DEAN CARROW: A. No, it wouldn't, Ms.  
25 Cronk. I think the central argument and the Industry



1 position in my evidence is that some numerical or  
2 quantitative standard is required and, in my view, that  
3 standard is yet to be established.

4 Q. And whether those numbers are  
5 properly described as an existing standard or a range  
6 of potentially appropriate results, let's assume the  
7 latter, the range of potentially appropriate results,  
8 would that in your view be appropriate or inappropriate  
9 as a measure of success for foliage preservation?

10 A. I'm not sure I understand that  
11 question.

12 Q. Fine. Assume that the 25 to 75 per  
13 cent is a range -- is intended as a range--

14 A. Yes.

15 Q. --of potentially acceptable foliage  
16 preservation results. Do you understand so far the  
17 assumption?

18 A. Yes.

19 Q. Assume that that is the case, would  
20 that be appropriate or inappropriate in your view  
21 against which to measure the success of foliage  
22 preservation efforts in the area of the undertaking?

23 A. I think in answering that, Ms. Cronk,  
24 I should perhaps clarify the context within which that  
25 discussion took place.

1                   My recollection of it was that it took  
2 place in the context of spruce budworm spraying  
3 programs largely directed to what we call commercial  
4 forests; in other words, mature forests made up of  
5 spruce and fir that are part of the harvesting plans.

6                   My position with respect to that is that  
7 a range as wide as 25 to 75 per cent is probably  
8 inappropriate for that class of stand.

9                   Having said that, Ms. Kleer questioned me  
10 on that at length yesterday and I think I pointed out  
11 in my evidence that as we move forward in time and  
12 develop a more sophisticated approach to that, in fact  
13 there may be some other classes of stands where  
14 numerical standards -- other numerical standards might  
15 be quite appropriate and in fact they may be -- some of  
16 those standards may be 25 per cent depending on the  
17 objective the manager was trying achieve in that  
18 particular stand, but I see that as many, many years  
19 ahead, if you wish.

20                  Q. Dean Carrow, a number of questions  
21 were put to you by Ms. Kleer regarding the reports of  
22 the Forest Pest Control Forum and I'm going to ask you  
23 to put in front of you Exhibit 1206 and remember that's  
24 in four parts, A to D.

25                  MS. CRONK: And, Madam Chair, I'll try to

1 do this as quickly as possible, but in light of some of  
2 the questions raised I'm obliged to go through this.  
3 You are going to perhaps find it of assistance to have  
4 all four documents available to you.

5 I have another copy, Mr. Martel, if it  
6 would be of any assistance.

7 MR. MARTEL: I have two of them. I'm  
8 making progress here.

9 MS. CRONK: Which ones are you missing,  
10 sir?

11 MR. MARTEL: C and D. They've got to be  
12 in the vicinity.

13 MS. CRONK: I believe C was 1983 and D  
14 was 1984.

15 MR. MARTEL: I have got C.

16 MS. CRONK: You have got C. Sorry. Do  
17 you have D, sir?

18 MR. MARTEL: Yes, I have. Thank you.

19 MS. CRONK: Q. Dean Carrow, first  
20 dealing with the currency of the data contained in this  
21 exhibit, all four parts, can you tell the Board, are  
22 you aware of any subsequently published government  
23 reports dealing with the efficacy of spray operations  
24 for spruce budworm in this province for the years 1981  
25 to 1984, apart from what's in these reports?

1                   DEAN CARROW: A. For the years 1981 and  
2                   1982, Ms. Cronk, there may well be reports published by  
3                   the Ministry of Natural Resources that followed these  
4                   particular reports of the Pest Control Forum and I  
5                   underline may because I would have to go back and check  
6                   specifically on that.

7                   My impression is that after '82 in fact  
8                   the Ministry did not publish a separate report other  
9                   than the one that was taken to the Pest Control Board.

10                  Q. All right. With respect to the years  
11                  1981 and '82 then, for the purpose of assisting the  
12                  Board, I would like you subsequently, obviously not  
13                  now, to check that and, if there are additional reports  
14                  from the Ministry of Natural Resources for those two  
15                  years, to provide them to the Board. Would you do  
16                  that?

17                  A. Mm-hmm, I certainly will.

18                  Q. All right. With respect to the years  
19                  1985 to 1988, are you aware of any subsequently  
20                  published government reports apart from the Forest Pest  
21                  Control Board reports that are before the Board?

22                  A. 1985 to 1988?

23                  Q. Yes.

24                  A. No, I'm not.

25                  Q. All right. Then with respect to the

1 years 1983 and following, recognizing the caveat that  
2 you've indicated with respect to 1981 and 1982--

3 A. Mm-hmm.

4 Q. --for 1983 and following to 1988, are  
5 these reports as current at they get, insofar as you're  
6 aware?

7 A. That's my understanding. That's  
8 right, with respect to Ontario.

9 Q. Yes.

10 A. Yes.

11 Q. Thank you. Could I ask you to go  
12 first, if you would please, to 1206B which are the 1982  
13 results. You are described as a co-author of this  
14 document, Dean Carrow. What position did you hold at  
15 that time?

16 A. At that time I was -- I see,  
17 according to the front page, I was two positions. I  
18 was at -- I was supervisor of Pest Control with the  
19 Ministry of Natural Resources and during that year I  
20 moved to New Brunswick to take a different position.  
21 But at the time the report was in preparation, I  
22 probably would have been in New Brunswick already.

23 Q. All right. Now, there has been some  
24 discussion of Mr. Howse whose name appears in  
25 co-authorship on this report as well. While you were



1 supervisor of the Pest Control Branch of the Ministry  
2 of Natural Resources, was Mr. Howse engaged with that  
3 division of the Ministry as well?

4 A. No, Dr. Howse is an employee of  
5 Forestry Canada, Great Lakes Forestry Centre at Sault  
6 Ste. Marie and he's head of Forest Insect and Disease  
7 Survey as is Mr. Meating.

8 Q. All right, thank you. I 'm sorry,  
9 what position did you hold with the New Brunswick  
10 Department of Natural Resources in Fredricton?

11 A. I was Assistant Deputy Minister for  
12 the Forest Resources for the Department of Natural  
13 Resources.

14 Q. Now Ms. Kleer took you with respect  
15 to this exhibit to Table 6 and to Table 8. I would  
16 like to start with Table 6 - that's at page 332, Madam  
17 Chair. Do you have that, Dean Carrow? Table 6, page  
18 332.

19 A. Yes, I do.

20 Q. Ms. Kleer indicated, and you agreed,  
21 that the foliage protection or preservation standard  
22 was met on two of the check or control areas set out in  
23 Table 6 without any spraying. The table indicates that  
24 spraying took place with Orthene. What is Orthene,  
25 Dean Carrow? Is that a chemical or a --

1                   A. Orthene is a chemical insecticide.  
2           It's registered for use against spruce budworm.

3                   Q. All right. Just looking at the  
4           foliage preservation statistics in Table 6, how would  
5           you compare the foliage preservation results achieved  
6           on the sprayed versus unsprayed areas?

7                   A. Well, there is -- in both cases, the  
8           Friday Lake seed production area and - mine's a little  
9           faded here - Matabichuan, is that what that reads,  
10          Matabichuan seed production area.

11                  Q. Yes.

12                  A. Do you want me to spell that? In  
13          both of those seed production areas the level of  
14          defoliation is noticeably lower than in the comparable  
15          check blocks.

16                  Q. And what do the population reduction  
17          percentages indicate?

18                  A. And in both of those cases there is  
19          quite a high population reduction due to treatment; one  
20          being 93 per cent reduction and the other 97 per cent.  
21          And I should point out that that particular calculation  
22          is a reduction that's due to treatment alone; in other  
23          words, it takes into account normal population  
24          fluctuations in the untreated areas and is a measure of  
25          the improvement gained through application of the

1 insecticides.

2 Q. All right. Now, just dealing with  
3 the areas described in Table 6, could I ask you to go  
4 to page 9, page 9 of this document.

5 A. Yes, I have it.

6 Q. I draw your attention, Dean Carrow,  
7 to the first half of the first paragraph on this page,  
8 and I would ask you whether it assists you in  
9 indicating to the Board how the results of the program  
10 dealt with in Table 6 were in the end evaluated? How  
11 were the results regarded?

12 A. Well, I guess the -- I'm not sure  
13 which part of that you're alluding to, Ms. Cronk, but I  
14 guess the statement in the first paragraph is -- or in  
15 the first sentence is relevant:

16 "As a result this year's operation cannot  
17 be assessed in terms of flower  
18 production, although good cone crops were  
19 observed in all areas."

20 Q. All right. And if we look at Table  
21 6, we see that the data pertains to the Temagami  
22 District spraying effort in 1982, and with respect to  
23 that, how were the results evaluated as described at  
24 page 9?

25 A. I really am not sure I understand

1 your question.

2 Q. All right. I'm sorry, Dean Carrow.  
3 If you could go back to Table 6, just leave your finger  
4 at page 9, if you would.

5 A. All right.

6 Q. Looking at page 6, the spray data  
7 pertains to the Temagami District in 1982?

8 A. Yes, that's right.

9 Q. All right. And if you go to the text  
10 on page 9--

11 A. Mm-hmm.

12 Q. --pertaining to Table 6 and the data  
13 in Table 6, was an evaluation made of the efficacy of  
14 the spray efforts in Temagami that year? Is there any  
15 conclusion reached with respect to the spray operation?

16 A. Yes. The conclusion is about midway  
17 down that paragraph:

18 "Results of this particular operation  
19 were excellent both in terms of larval  
20 mortality and foliage protection (Table  
21 6)."

22 Q. And could I ask you to go back to the  
23 table again.

24 A. Yes.

25 Q. And in addition to Table 6 on this

1 page, table 7 appears immediately below it. Do you  
2 have that?

3 A. Yes, I do.

4 Q. All right. And what materials were  
5 applied in the spray operation dealt with in Table 7?

6 A. In that particular program which took  
7 place in Hearst District in that year it involved an  
8 aerial application of Orthene followed by another  
9 aerial application of Matacil, both of which are  
10 chemical insecticides.

11 Q. And looking at the foliage  
12 preservation results achieved in that area, how would  
13 you compare the preservation levels achieved on the  
14 sprayed versus unsprayed blocks?

15 A. Well, those were fairly impressive  
16 results. In the one area, the Arnott seed production  
17 area, there was a defoliation level of 20 per cent  
18 compared with 52 per cent defoliation in the untreated  
19 check block.

20 In the other area, the Hanlan seed  
21 production area, the defoliation level was 1 per cent  
22 compared with 70 per cent defoliation in the untreated  
23 check block.

24 Q. And what do the insect population  
25 reduction statistics indicate?



1                   A. Those are similarly fairly good  
2 results. In the Arnott seed production area there was  
3 76 per cent reduction due to treatment, 76 per cent  
4 reduction in population due to treatment, and in the  
5 Hanlan seed production area the level of reduction was  
6 92 per cent.

7                   Q. All right. And with respect to the  
8 spray efforts in both the Temagami District and the  
9 Hearst District, what species was involved?

10                  A. Those were all white spruce.

11                  Q. And going back to page 9 again, if  
12 you would please, and just dealing this time with the  
13 data relevant to Table 7, what evaluation of the  
14 results of the spray program was reached; what  
15 conclusion, if any?

16                  A. "Results of this operation...", that  
17 is the one in Hearst District,

18 "...were not quite as good as in Temagami  
19 in terms of population reduction, but in  
20 terms of foliage protection this too was  
21 a very successful program."

22                  Q. Now, Ms. Kleer also took you to Table  
23 8, could I ask you to go to that, at page 333. What  
24 material was used for the spray effort in this area?

25                  A. This program involved a single aerial

1 application of Matacil.

2 Q. And where was it?

3 A. That was in Hearst District in two  
4 different locations.

5 Q. And what is Matacil?

6 A. Matacil is a chemical insecticide.

7 Q. All right. Now, Ms. Kleer drew your  
8 attention specifically to the Rogers Township results  
9 appearing at the bottom of Table 8 and she drew your  
10 attention to the fact that the pre-spray larvae  
11 populations were higher on the unsprayed blocks than on  
12 the sprayed. Do you recall that?

13 A. Yes, that's right, I recall that.

14 Q. Was that true in Chelsea Township?

15 A. No, in the Chelsea Township moose  
16 yard the pre-spray larval populations were roughly the  
17 same.

18 Q. All right. And in Rogers Township,  
19 just dealing with the data at the bottom of the table,  
20 how would you compare the levels of foliage  
21 preservation achieved on the sprayed and unsprayed  
22 areas?

23 A. The foliage preservation was fairly  
24 good, fairly satisfactory. In one particular case,  
25 plantation No. 43, the level of defoliation in the

1 treated block was 12 per cent compared with a  
2 defoliation level of 74 per cent in the untreated check  
3 block, and in the other part of that plantation that  
4 was monitored, the defoliation level in the sprayed  
5 area was 9 per cent compared with a level of 35 per  
6 cent defoliation in the untreated check.

7 Q. All right. Now, Dean Carrow, I'm  
8 going to have a number of questions with respect to  
9 this Township and this plantation, but just looking at  
10 the pre-spray larvae data contained in the table with  
11 respect to that plantation, could I ask you to go back  
12 again to page 9, to the text, and to paragraph 2 and,  
13 in particular, the last portion of that paragraph and  
14 can you indicate whether it provides any assistance to  
15 you in indicating to the Board why the pre-spray larvae  
16 populations on the control or check blocks were higher  
17 than those on the spray blocks?

18 A. The comment that is made in the text,  
19 Ms. Cronk, is that with reference to the Rogers  
20 Township plantations:

21 "...where population reduction was  
22 relatively poor, defoliation on both  
23 balsam fir and white spruce was light.  
24 This is undoubtedly due to the relatively  
25 low pre-spray populations in this area

1 which, it should be noted, was treated  
2 with Matacil in 1981."

3 So that same area had been treated the  
4 year before.

5 Q. With what?

6 A. With Matacil.

7 Q. Now, just on that point, and that is  
8 the treatment that it received in 1981, could you leave  
9 this page open from the 1982 results and go as well to  
10 the 1981 results, that's Exhibit 1206A, and could you  
11 go to page 185, please.

12 A. Yes, I have that.

13 Q. Does this indicate what spraying took  
14 place on plantation 43 in Rogers Township in 1981?

15 A. Yes, it does. That particular  
16 plantation No. 43 was treated with Matacil in the  
17 spring of 1981.

18 Q. And when that occurred, were the  
19 pre-spray larvae populations higher or lower on the  
20 sprayed blocks as compared to the control or check  
21 blocks?

22 A. In both of those cases both on balsam  
23 fir and on white spruce that table indicates that the  
24 pre-spray larval populations were higher on the treated  
25 blocks than on the check blocks.

1                   Q. All right. In your opinion, Dean  
2 Carrow, could the fact that the area had been sprayed  
3 in 1981 with Matacil, that is the same plantation in  
4 the same township, account for the pre-spray larvae  
5 populations noted in 1982 on the check blocks as  
6 compared to the sprayed blocks?

7                   A. Yes, that could have been a  
8 contributing factor.

9                   Q. All right. And dealing still with  
10 the 1981 results on this township and this plantation,  
11 could I ask you to look at the foliage preservation  
12 data, and can you indicate for the Board with respect  
13 to balsam fir what foliage preservation was achieved?

14                  A. The level of defoliation in the -- on  
15 sprayed balsam fir in that particular plantation was  
16 very light, it was only 4 per cent defoliation in 1981  
17 compared with 56 per cent defoliation in the untreated  
18 check block.

19                  Q. And what does that mean with respect  
20 to preservation of foliage; what does that translate  
21 to?

22                  A. Well, it means 96 per cent  
23 preservation of foliage.

24                  Q. All right. And with respect to white  
25 spruce, what was the preservation level achieved?



1                   A. The preservation level was 97 per  
2 cent.

3                   Q. And with respect to insect population  
4 reductions, what results were achieved?

5                   A. On balsam fir the population  
6 reduction was a hundred per cent due to the treatment,  
7 and 92 per cent on white spruce, both of which are  
8 very, very good results.

9                   Q. All right. And, I'm sorry, I might  
10 have asked you this, forgive me if I did, what material  
11 was sprayed on this area as reflected in Table 12?

12                  A. It was treated with Matacil, chemical  
13 insecticide.

14                  Q. All right. Now, could you keep page  
15 185 open and go back one page to page 184, this is  
16 still the 1981 results. Does it indicate whether any  
17 other spraying took place on this plantation,  
18 plantation 43, in Rogers Township in that year?

19                  A. Yes, there was one treatment of Dipel  
20 88 which is a B.t. formulation at the same time during  
21 1981.

22                  Q. In the same or a different  
23 plantation?

24                  A. Well, it says Rogers Township  
25 plantation 43, so I assume it's the same -- a different

1           portion of the same plantation.

2                       Q. All right. Am I correct or incorrect  
3 then, Dean Carrow, that we have B.t. and chemicals  
4 being used on the same plantation in the same township  
5 in the same year?

6                       A. Yes, that's correct.

7                       Q. All right. Could I ask you in the  
8 same report, if you could just stay with this one, to  
9 go to page 175?

10                      A. Yes, I have it.

11                      Q. Does that indicate when the spraying  
12 took place of both the chemicals and B.t. in this  
13 particular township that year?

14                      A. Yes. That particular page is Table 3  
15 which is Summary of Aerial Spraying in Ontario against  
16 Spruce Budworm and includes -- amongst other things,  
17 includes the date sprayed for the various blocks,  
18 including Rogers Township.

19                      Q. And what was the spray date for the  
20 Matacil application on that plantation?

21                      A. Matacil was put on on June the 7th.

22                      Q. And when was the Dipal application  
23 put on?

24                      A. And Dipel was between June 7th and  
25 June 9th.

1                   Q. All right. Now, Ms. Kleer asked you  
2 during her cross-examination, if you were to do a study  
3 to assess the effectiveness of B.t. versus chemicals  
4 whether it would be appropriate, in your view, to  
5 compare the results achieved in the same year and you  
6 indicated that, yes, it would, as I recall your  
7 evidence, and that it would be important to ensure the  
8 same conditions applied, and that meant time.

9                   Do you recall that exchange?

10                  A. Yes, I do.

11                  Q. All right. Given that evidence, do  
12 we, in your opinion, have those circumstances with  
13 respect to plantation 43, Rogers Township, for the  
14 purposes of making a comparison based on the available  
15 data?

16                  A. I'd say that's fairly close, based on  
17 the evidence that's contained within this report, it  
18 appears to be a fairly comparable situation.

19                  I guess I would want to qualify that, Ms.  
20 Cronk, by saying that before you should draw any firm  
21 conclusions it would be advisable to go back and look  
22 at what the post-spray conditions were as well, but  
23 based on what the information that I've seen in this  
24 report, looks like a very comparable situation.

25                  Q. All right. Now, you looked at Table

1 12 which had to do -- at page 185 which indicated the  
2 result data with respect to the Matacil treatment.  
3 Could you go back to page 184, Table 11, and could you  
4 indicate to the Board, please, what foliage  
5 preservation levels were achieved on this plantation in  
6 this township using B.t. that year?

7 Perhaps you could start first with balsam  
8 fir.

9 A. Yes. This table is a summary of the  
10 results achieved through the aerial application of  
11 B.t., three different formulations of B.t. and  
12 defoliation or foliage protection achieved on both  
13 balsam fir and white spruce.

14 And if you go down the balsam fir column,  
15 for example -- and, again, I don't know how you'd like  
16 me to deal with this, whether you'd like me to read the  
17 numbers off, or -- it's quite a long list, Ms. Cronk.

18 Q. Sorry, just dealing with Rogers  
19 Township, plantation 43.

20 A. Oh, I'm sorry, all right.

21 Q. And if you could start with balsam  
22 fir, I just would like you to do the conversion for the  
23 Board. What was the foliage preservation achieved  
24 using the B.t. formulations?

25 A. Sure. On balsam fir the foliage

1 preservation was 82 per cent which is certainly a good  
2 result.

3 Q. And how did that compare with the  
4 chemical results at Table 12?

5 A. And the chemical results, the foliage  
6 preservation was 93 per cent. I'm sorry, sorry --

7 Q. For balsam fir?

8 A. I was lookign at white spruce. For  
9 the balsam fir, the foliage -- I'm sorry, what was your  
10 question? Did you say chemical or on the untreated  
11 area?

12 Q. I'm sorry. I'm looking at what you  
13 just said about Table 11 with balsam fir and I'm asking  
14 you to relate that to Table 12 and to compare with  
15 respect to balsam fir the foliage preservation levels  
16 achieved.

17 A. All right. I apologize, I misheard  
18 your question. So that with respect to balsam fir that  
19 was treated with B.t. in that particular year, 82 per  
20 cent of the foliage was preserved on balsam fir with  
21 B.t., and Table 12 shows that with Matacil there was a  
22 96 per cent level of foliage preservation.

23 Q. All right. And what is the  
24 comparison with respect to the white spruce foliage  
25 preservation levels?



1                   A. For white spruce the level of foliage  
2 preservation on the B.t. treated area was 93 per cent,  
3 and for white spruce with Matacil treated area it was  
4 97 per cent.

5                   Q. And then when you come to the insect  
6 population reduction data, how would you compare the  
7 results achieved with B.t. formulations versus the  
8 chemical, again the same township, same plantation?

9                   A. Right. On balsam fir with -- on  
10 balsam fir with the B.t. treated area the population  
11 reduction was 92 per cent, on balsam fir, and it was  
12 100 per cent population reduction on that portion of  
13 the plantation treated with Matacil.

14                   For white spruce, the population  
15 reduction was 25 per cent with the B.t. formulation,  
16 and with the chemical, that is Matacil, the population  
17 reduction was 92 per cent.

18                   Q. Now, Ms. Kleer suggested to you in  
19 cross-examination that in a general sense - and this is  
20 as I wrote it down - in a general sense, B.t. is more  
21 effective on balsam fir than chemicals.

22                   Based on this data, Dean Carrow, which  
23 material is more effective on balsam fir, on both  
24 parameters, that is, insect population reduction and  
25 foliage preservation achieved?

1                   A. Just using these two tables for  
2 comparison, Table 11 and 12?

3                   Q. Yes.

4                   A. I would say that the chemical appears  
5 to be marginally better than B.t. for population  
6 reduction on balsam fir, although I would want to check  
7 that data closely to be sure that it really was a valid  
8 difference; however, there does appear to be a marginal  
9 difference with -- or a marginally increased  
10 performance with Matacil.

11                   And with respect to white spruce,  
12 certainly there's quite a substantial difference with  
13 92 per cent population reduction with Matacil compared  
14 to 25 per cent with B.t. So there doesn't appear to be  
15 much comparison there.

16                   Q. That is on insect population  
17 reduction?

18                   A. That's right.

19                   Q. And just in a relative sense, what  
20 about with respect to foliage preservation achievement;  
21 do you perceive any material difference between the  
22 B.t. formulation results and the chemical results?

23                   A. The chemical results are very good  
24 both on balsam fir and white spruce, but I think in  
25 order to do that in a credible fashion, Ms. Cronk, I

1           should probably calculate the degree of foliage  
2           protection; in other words, use the Quebec system for  
3           making that type of comparison.

4                   Q. All right.

5                   A. Because this doesn't take into account  
6           the amount of defoliation on the untreated area.

7                   Q. All right. I take your comment, and  
8           rather than taking the time to do that now, with  
9           respect to insect population reduction, particularly  
10          white spruce, do you regard the difference demonstrated  
11          by this data as being significant or insignificant as  
12          between the B.t. and the chemical applications?

13                  A. I think it's quite -- based on that  
14          data there's quite a significant -- appears to be quite  
15          a significant difference.

16                  Q. Could I ask you to go back to the  
17          1982 results then, please, that's Exhibit 1206B, and  
18          this time to page 327 -- sorry, I sort of took you away  
19          from the 1982 results earlier, I would like to come back  
20          to them now.

21                  Looking at the first paragraph on this  
22          page, with respect to the 1982 aerial spray program,  
23          can you assist the Board as to what the main material  
24          was that was used that year?

25                  A. Yes, it was a B.t. product called

1       Dipel 88.

2                   Q.   And what percentage of the treated  
3 forest was treated with that material.

4                   A.   Almost 80 per cent of the area was  
5 treated with Dipel.

6                   Q.   And what, if anything, does the data  
7 refer to in this paragraph indicate regarding the  
8 comparative effectiveness of B.t. on balsam fir and  
9 spruce?

10                  A.   The concluding sentence in that  
11 paragraph is as follows:

12                    "It has been observed in earlier programs  
13 that B.t. is generally more effective on  
14 balsam fir than on spruce and an  
15 examination of Tables 9 and 10...", that  
16 is in this report:

17                    "...show that this trend continued in  
18 1982."

19                  Q.   And is that an observation, Dean  
20 Carrow, that is inconsistent or consistent with your  
21 own experience?

22                  A.   That's consistent with my own  
23 experience.

24                  Q.   Could I ask you to go next, please,  
25 to the 1983 results, Exhibit 1206C. Do you have that?

1 A. Yes, I do.

2 Q. Ms. Kleer referred you to Table 10  
3 which appears at page 227. Could you go to that table,  
4 please?

5 A. I have it.

6 Q. She suggested to you in her  
7 cross-examination -- well, she drew your attention  
8 first to the second Chelsea Hill moose yard line data  
9 on this table.

10 A. Yes.

11 Q. Correct? And she suggested to you  
12 that the defoliation experienced in the Chelsea Hill  
13 moose yard was higher on the sprayed block than on the  
14 unsprayed block. Do you recall that?

15 A. Yes, I do.

16 Q. Was that so on any of the other  
17 sprayed areas reflected in Table 10?

18 A. No, it wasn't.

19 Q. And the table deals at the bottom  
20 again with Rogers Township. Can you help me, is that  
21 the same plantation we looked at earlier?

22 A. Yes, that's plantation No. 43. In  
23 this case it refers to 43A. I'm not sure exactly what  
24 that letter refers to, but presumably it is a part of  
25 that same plantation.



1 Q. All right. Could you turn to page 5,  
2 if you would, please, of the results section of this  
3 document -- sorry, that's a little awkward. Page 316  
4 at the bottom. There are two sets of paginations, if  
5 you would go to page 316 at the bottom.

6 A. Yes.

7 Q. And I would refer you to the third  
8 paragraph on this page, and perhaps if you could just  
9 take a moment and read it.

10 A. The one that starts: "In 1981..."

11 Q. Yes.

12 A. Yes.

13 Q. All right. First of all, does that  
14 paragraph relate to the data in Table 10?

15 A. Yes, it appears to.

16 Q. Does it afford any explanation of the  
17 results observed in the Chelsea Hill moose yard to  
18 which Ms. Kleer drew your attention?

19 A. This particular paragraph notes that  
20 there were technical problems reported during the  
21 operation, presumably the portion of the operation that  
22 dealt with spraying of that particular Chelsea Hill  
23 area. It doesn't elaborate on what those problems  
24 were.

25 Q. Recognizing that indication, would

1           that have any impact on the results, in your view, or  
2           could it?

3                       A. Oh, it certainly with would, yes. I  
4           think I have pointed that out in other parts of my  
5           evidence, that there are other factors besides the  
6           particular insecticide that was being used that could  
7           very well affect the successful or failure of the  
8           program.

9                       Q. Dealing with Rogers Township and the  
10          portion of this paragraph, paragraph 3 that deals with  
11          Rogers Township, does it assist you in providing any  
12          further details as to what was involved in that  
13          township in these various spray efforts over the year?

14                      A. Yes, it does. It's interesting, I  
15          was personally involved in designing some of these  
16          trials in the earlier stages because at that time, Ms.  
17          Cronk, there was growing concern about what impact  
18          spruce budworm feeding was having on young spruce  
19          plantations. This was a relatively new situation in  
20          northern Ontario in the sense that budworm had not been  
21          observed in young spruce plantations to any great  
22          extent, and the managers were concerned about what  
23          level of growth loss was being caused by spruce budworm  
24          feeding on those young spruce plantations.

25                      One of the -- so that this particular

1 trial - I shouldn't call it a trial - this particular  
2 program was set up as a multi-year program to focus  
3 particularly on young spruce plantations and try to  
4 determine what level of growth loss occurred as a  
5 result of budworm feeding and, in fact, what level of  
6 improvement could be achieved with protection spraying.

7 Q. Was it a special study area?

8 A. Well, it was selected primarily  
9 because of the age class of the spruce and because of  
10 the well documented history of those plantations we  
11 knew the origin of them. They were relatively uniform  
12 and it constituted quite a valuable study area.

13 Q. Is that why both a variety of B.t.  
14 formulations and chemicals were used in same area?

15 A. Yes, that's right.

16 Q. Okay. Could you go back to Table 10,  
17 then, and generally can you offer any opinion to Board  
18 as to the foliage preservation results achieved in the  
19 study area after the use of Matacil?

20 A. With respect to Rogers Township  
21 specifically?

22 Q. Yes.

23 A. Yes. The foliage protection achieved  
24 in that particular plantation was quite good with the  
25 Matacil application. On balsam fir, the foliage

1        preservation was 76 per cent with Matacil compared with  
2        1 per cent foliage preservation on the untreated check  
3        areas. On the white spruce portion of the plantation,  
4        the foliage preservation level ws 89 per cent compared  
5        with 10 per cent on the untreated checks.

6                    Q. And what opinion, if any, can you  
7        offer to the Board regarding the insect population  
8        reductions achieved in the study area after Matacil  
9        spraying?

10                   A. On both of those species there was a  
11        very high level of population reduction; 98 per cent on  
12        balsam fir and 97 per cent on white spruce.

13                   Q. All right. Could you leave your  
14        finger at that table, if you would, please, Dean  
15        Carrow, and could you turn to page 322. I'm sorry,  
16        it's a little difficult to work around these pages.  
17        This is table 5. Do you have that?

18                   A. Yes, I do.

19                   Q. Can you assist the Board - again just  
20        dealing with Rogers Township and plantation 43 - can  
21        can you assist the Board as to when spraying occurred  
22        with Matacil in that township on that plantation?

23                   A. Matacil spraying took place on June  
24        the 18th.

25                   Q. When did spraying with Dipel or B.t

1 occur?

2 A. On June the 18th as well.

3 Q. All right. And if we look over to  
4 the status column on this table, what does it indicate  
5 with respect to the Matacil spraying effort?

6 A. The Matacil spraying effort was an  
7 operational -- part of an operational spray program.

8 Q. What about the B.t spraying?

9 A. The B.t spraying was ranked as an  
10 experimental application.

11 Q. I am going to ask you now to go to  
12 Tables 11 and 12, Dean Carrow, starting at page 328.  
13 We have seen that Table 10 dealt with the results from  
14 the spraying of Matacil. Do Tables 11 and 12 deal with  
15 the results of the spraying of Dipel, first, on balsam  
16 fir, Table 11, and then white spruce, Table 12?

17 A. Yes, that's correct.

18 Q. Could you just take a moment, if you  
19 need it, and could you provide the Board, if you are in  
20 a position to do so, with your opinion as to the  
21 relative levels of efficacy demonstrated by this data  
22 in comparing the spray efforts with B.t and the spray  
23 effort with Matacil in this plantation?

24 Let's deal first with foliage  
25 preservation, just in general terms, I recognize there



1 is detailed data here. Let's start with balsam fir and  
2 foliage preservation.

3 A. Yes. Well, if I could just go down  
4 the list perhaps and give you the numbers. The levels  
5 of foliage preservation observed on balsam fir in this  
6 particular area treated with Dipel would be 79 per  
7 cent, 35 per cent, 39 per cent, 14 per cent, 22 per  
8 cent and 41 per cent. I hope I have got those right, I  
9 am subtracting as I go.

10 Q. How does that compare with the  
11 results achieved with Matacil? Not necessarily the  
12 numbers, but just relativity. Matacil is in Table 10.

13 A. Oh, I'm sorry. The level of foliage  
14 preservation with Matacil were 76 per cent and 89 per  
15 cent.

16 Q. And in your opinion, or are you in a  
17 position to express an opinion to the Board as to the  
18 relative levels of efficacy demonstrated by that data?

19 A. Well, it is pretty limited Matacil  
20 data, Ms. Cronk, but certainly there's -- one should be  
21 generally satisfied with those levels of protection  
22 achieved -- foliage preservation achieved with Matacil,  
23 and with Dipel there is quite a range of foliage  
24 preservation there. Certainly looking down that column  
25 of results, at least two of them are unsatisfactory,

1 two of the six.

2 Q. And dealing with white spruce?

3 A. White spruce is listed in Table 12?

4 Q. Yes, page 329.

5 A. Yes, right.

6 Q. Again just in relative terms.

7 A. Again, the levels of defoliation on  
8 white spruce are noticeably higher in that particular  
9 area that was treated with Dipel and the B.t  
10 formulation, values such as 44 per cent foliage  
11 preservation, 29 per cent, 40 per cent, 24 per cent, 17  
12 per cent and 44 per cent foliage preservation.

13 Q. And in general terms, are those  
14 results lower or at the same level of achievement as  
15 those demonstrated with Matacil as reflected in Table  
16 10?

17 A. No, they are generally quite a bit  
18 lower.

19 Q. All right. Then, finally, Dean  
20 Carrow, we are coming to the end of these tables.  
21 Could I ask you to go to Exhibit 1206D, the 1984  
22 results, if you would, please.

23 Ms. Kleer took you to Table 10 of this  
24 document at page 268 dealing with with B.t --  
25 experimental applications of B.t. on balsam fir. I

1 would like you to go to Table 9 at page 267. I'm  
2 sorry, if you can look at the sort of together, if you  
3 can.

4 A. Yes.

5 Q. Table 10. What townships does it  
6 relate to?

7 A. Table 10 is Rogers Township in Hearst  
8 District.

9 Q. And Table 9, what township does it  
10 relate to? Does it also related to Rogers?

11 A. There are some plots in Rogers  
12 Township as well.

13 Q. All right. Dealing with Table 9,  
14 does it pertain to B.t applications or chemical  
15 insecticide applications?

16 A. Table 9 pertains to two chemicals,  
17 one being Matacil and the other being Sevin.

18 Q. Could you look first, if you would,  
19 please, at the Matacil treatments in Rogers Township in  
20 the middle of Table 9?

21 A. Yes.

22 Q. And just look at the foliage  
23 preservation data?

24 A. Yes.

25 Q. And then take a look at Table 10 with

1 respect to foliage preservation and the Dipel  
2 treatments and in the general terms, how do you regard  
3 the results achieved by use of the two different  
4 materials?

5 A. Well, the foliage preservation with  
6 Matacil, particularly, that is the data in Table 9 is  
7 outstanding. The foliage preservation there is 98 and  
8 87 per cent. It's pretty hard to beat.

9 With respect to the B.t formulations,  
10 which are specifically on balsam fir, I will just give  
11 you a range, I guess, maybe that would be most  
12 appropriate here.

13 Q. Maybe this is an easier way to do it.  
14 Looking at Table 9, in any case with any of the  
15 formulations of B.t. that were used, was the same level  
16 of foliage preservation achieved as was achieved with  
17 the chemicals?

18 A. Yes, there is one that's the same and  
19 one that's -- and another one that's very close. So I  
20 haven't counted up the number of plots in Table 10, but  
21 it's a large number of plots and a relatively small  
22 number of them achieved --- only about two of them  
23 achieved the levels of foliage preservation that were  
24 achieved in Table 9.

25 Q. All right. Was that with relation to

1           balsam fir?

2                   A.   With the B.t formulation?

3                   Q.   Yes.

4                   A.   That's right.

5                   Q.   All right.

6                   A.   Just with balsam fir.

7                   Q.   Then looking at white spruce. In any

8           case with any formulation of B.t, was the same level of

9           foliage preservation achieved as was achieved with the

10          chemicals?

11                  A.   No, it wasn't.

12                  Q.   Thank you, Dean Carrow. I don't

13          think we have to belabour this much longer.

14                  You told Ms. Kleer -- perhaps I should

15          back up. There were a number of questions put to you

16          regarding Table 14 in your statement of evidence.

17                  A.   Yes, I recall them.

18                  Q.   And what your intention was and what

19          the data in that table indicated, and you told Ms.

20          Kleer, as I understood your evidence, that you did not

21          intend Table 14 to indicate a comparative conclusion or

22          statement regarding the efficacy of B.t and chemicals.

23          Do you recall that?

24                  A.   Yes, I tried to emphasize that.

25                  Q.   All right. Does the data in the



1 Forest Pest Control Forum Reports that we have just  
2 reviewed afford, in your opinion, a reliable database  
3 upon which to make such a comparison, those types of  
4 reports?

5 A. Yes, I think it does provided one  
6 recognizes that in any given year, in any one given  
7 situation you may have anomalies, and I would just  
8 caution that conclusive results should not be based on  
9 inspection of a relatively few sets of data or  
10 relatively few assessment plots.

11 In fact, I think what we have is a very  
12 valuable resource. In this particular case, we have 11  
13 years of data which provides a very good database for  
14 analysis and the drawing of general conclusions with  
15 respect to relative efficacy of B.t. and chemicals.

16 Q. Could I ask you to go to Table 14,,  
17 if you would, please, of your -- this panel's statement  
18 of evidence at page 181?

19 A. Yes.

20 Q. Ms. Kleer, you may recall, asked you  
21 to look at B.t versus chemicals for balsam fir for the  
22 years 1984 to 1979, the bottom half of the table. Do  
23 you remember that?

24 A. Yes.

25 Q. And she asked you specifically to

1 take a look at the B.t data for those years, just the  
2 B.t data, and just balsam fir. Do you remember that?

3 A. Yes.

4 Q. And she asked you to provide her with  
5 an average and you told her that 26 out of 35 plots met  
6 the New Brunswick foliage preservation standard, that  
7 worked out to be 73 per cent you said. Do you recall  
8 the discussion?

9 A. Yes, I do.

10 Q. All right. I would ask you to look  
11 at white spruce for the same years, 1984 to 1979 and  
12 can you -- first of all, do you have a calculator?

13 A. Yes, I do.

14 Q. Could you advise the Board, please,  
15 with respect to white spruce, so that both numbers are  
16 before the Board, on what percentage of the total plots  
17 treated with B.t was the New Brunswick foliage  
18 preservation standard met?

19 A. Okay. I will just take a moment.

20 Q. Thank you.

21 A. I make that 32 of 43 plots which is  
22 74 per cent.

23 Q. Thank you. Could I ask you just to  
24 take one more moment and to do the same thing with  
25 respect to chemicals; that is, on what percentage of

1 the total plots treated to protect white spruce was the  
2 New Brunswick standard met when the application was  
3 chemicals?

4 A. Yes. The comparable data for that,  
5 Ms. Cronk, are 25 out of 28 plots met the standard  
6 which is 89 per cent.

7 Q. Thank you. Could I ask you to go to  
8 page 180, and you will be relieved to know that I am  
9 off the numbers for the moment.

10 Looking at page 180 and the last  
11 paragraph, in the first sentence of that paragraph you  
12 stated:

13 "It is generally recognized that  
14 protection of white spruce is more  
15 difficult to achieve with B.t.k than with  
16 a chemical insecticide."

17 Stopping there, you were asked a number  
18 of questions by Ms. Kleer about that issue, and rather  
19 than dealing with each of them, can I simply ask you  
20 this: Based on the actual data contained in the Forest  
21 Pest Control Forum Reports, some of which you authored,  
22 others of which you have reviewed in the course of your  
23 evidence, is that still your opinion or has it changed?

24 A. No, it is still my opinion.

25 Q. Is that conclusion consistent or

1 inconsistent, in your view, with the actual reported  
2 efficacy data in the Forest Pest Control Forum Reports?

3 A. I think it's consistent with the data  
4 in those reports.

5 Q. Is that a matter of interpretation on  
6 your part or are you relying on particular data in the  
7 reports?

8 A. No, I'm relying again on at least 11  
9 years of recent data and also evidence from other  
10 scientific meetings as well.

11 Q. Now, Ms. Kleer also in respect of  
12 this discussion drew your attention to the adverse  
13 weather conditions that had applied in 1985--

14 A. Yes.

15 Q. --when you were discussing the  
16 results achieved in 1985 and as discussed at page 182  
17 of your statement of evidence.

18 And, Dean Carrow, my question to you is  
19 this: As a general matter, in the event of heavy rains  
20 during a spray operation, are the consequences in your  
21 opinion more significant if B.t has been used or if  
22 chemicals have been used?

23 A. It depends to a large extent on which  
24 chemical and which particular B.t. formulation. The  
25 reason I would qualify that is that, as I indicate

1 earlier, I think there has been some very substantial  
2 and impressive progress made with the improvement of  
3 B.t. formulations throughout the 1980s.

4 They are more concentrated, they are more  
5 potent than they used to be, they have spray adjuvants  
6 which try to take into account factors such as rainfall  
7 and provide some level of protection, as well as  
8 protection against ultraviolet radiation.

9 Q. Is it a concern in either  
10 circumstance regardless of the property used?

11 A. The property...

12 Q. Meaning the material, I'm sorry,  
13 whether it's biological --

14 A. It's a serious concern and certainly  
15 someone in charge of a spray operation pays very close  
16 attention to weather forecasts day by day, hour by hour  
17 and if there is a probability of rain within --  
18 certainly within one day of the application, then it is  
19 seriously -- it causes you serious concern and it  
20 certainly would be grounds for cancellation of that  
21 particular program. So it's a problem regardless of  
22 what product you are putting on.

23 I did mention I think with Ms. Klee that  
24 there are some particular chemical insecticides that  
25 have some systematic activity; that is, as soon as they



1 applied on the foliage a certain portion of it is  
2 absorbed and that portion of course is rain resistant.

3 Q. I recall the discussion. One other  
4 that formed the basis of discussion between Ms. Kleer  
5 and yourself had to do with this -- first, it related  
6 to the issue of the foilage preservation standard; and,  
7 secondly, to the issue of whether or not the standards  
8 that you have told the Board about in New Brunswick and  
9 Quebec have been validated scientifically.

10 Do you recall in general terms the  
11 discussion that took place?

12 A. Yes.

13 Q. Could I ask you to go to page 179 of  
14 your own statement of evidence. I'd direct your  
15 attention to the second paragraph, the second sentence  
16 where you say:

17 "The level of protection required to keep  
18 trees alive is not well validated  
19 scientifically."

20 What did you mean by that, Dean Carrow?

21 A. What I meant was that there have not  
22 been systematic studies designed and carried out in the  
23 field to demonstrate whether in fact it's necessary to  
24 have, for example, 50 per cent foliage preservation on  
25 balsam fir, continuously in order to keep it alive or

1           whether indeed it might be 60 per cent or whether it  
2           could be 40 per cent and, similarly, that kind of  
3           information is not available for spruce.

4                       Q.   Is that the point that you were  
5           making in your statement of evidence on that page?

6                       A.   That's the point I was making.

7                       Q.   Does that apply both to the New  
8           Brunswick and Quebec standards or only to one or to  
9           either?

10                      A.   No, it applies to both of them.

11                      Q.   I have a few more questions for you,  
12           Dean Carrow, but I will come back, if I might, to them  
13           in a moment.

14                      If I could turn now to Dr. McCormack and  
15           to a number of questions, Dr. McCormack, that you were  
16           asked. First, this morning Mr. Freidin asked you a  
17           number of questions relating to the buffer zones used  
18           in State of Maine with respect to herbicides. Do you  
19           recall that?

20                      DR. McCORMACK:   A.   I do.

21                      Q.   You seemed to me, in providing your  
22           answers to him, to be reading from something. Do you  
23           have those buffer zones for herbicides recorded?

24                      You have a piece of paper in your hand.  
25           Do you have a document that you can provide to the

1 Board so that they have it with respect to those Maine  
2 buffer zones for herbicides?

3 A. Ms. Cronk, the only document I have  
4 at hand is a table I constructed myself from the manual  
5 in the State of Maine which summarizes it in a single  
6 table which make it much easier to follow.

7 Perhaps I have with me a few more pages  
8 from that document, but the only thing I have referred  
9 to here in these proceedings is this table.

10 Q. All right. May I see that, sir.

11 Thank you.

12 Did you prepare this yourself?

13 A. I did.

14 Q. I'm sorry, from what source?

15 A. From the regulations and the summary  
16 of the guidelines in the State of Maine in consultation  
17 with the Director of the Maine Board of Pesticide  
18 Control.

19 MS. CRONK: Madam Chair, could I ask that  
20 that be marked as the next exhibit, and I will  
21 undertake to provide copies to my friends and  
22 additional copies to the Board.

23 MADAM CHAIR: Thank you. Ms. Cronk, do  
24 you want me to keep this copy?

25 MS. CRONK: Perhaps I will retrieve it.

1 Thanks.

2 MADAM CHAIR: That will be Exhibit 1219.  
3 What do you want it call it?

4 MS. CRONK: Dr. McCormack, could we  
5 appropriately describe this as the herbicide buffer  
6 guidelines in the State of Maine; is that accurate?

7 DR. McCORMACK: That's close. It's the  
8 guidelines for no spray buffer zones.

9 ---EXHIBIT NO. 1219: Guidelines for no spray buffer  
10 zones in the State of Maine.

11 MS. CRONK: Q. Dr. McCormack, can you  
12 put before you, please, Exhibit 1194 which is an  
13 exhibit introduced by Mr. Castrilli entitled, Madam  
14 Chair, Successful Silvicultural Operations Without  
15 Herbicides in a Multiple Use Environment. Exhibit  
16 1194.

17 Do you have that?

18 DR. McCORMACK: A. I have a copy.

19 Q. Is this from a refereed a peer  
20 reviewed publication, as far as you are aware?

21 A. There is absolutely no way to tell  
22 the source of this paper except that it is footnoted  
23 that it is a paper prepared for presentation at a  
24 silvicultural workshop in California in 1987, and I  
25 think that's the way it was described earlier.

1                   This is apparently a photocopy or a  
2                   retyping of the text of that paper, but it's impossible  
3                   to tell the source--

4                   Q.   That's fine.

5                   A.   --from which it came.

6                   Q.   Thank you.  It refers to the -- I am  
7                   going to mispronounce this, too.  How do you say the  
8                   name of this forest?

9                   A.   I have always had trouble with that.  
10                  I think it's the Siuslaw.

11                  Q.   Thank you.  With respect to that  
12                  forest, mention has been made in your evidence of a  
13                  text by Walstad entitled Forest Vegetation Management  
14                  for Conifer Production.

15                  Did you have any role with respect to the  
16                  preparation of that textbook?

17                  A.   Actually it's a book edited by Dr.  
18                  Walstad and Mr. Kuch of USEAP compiling material  
19                  assembled by a group of over 20 scientists in the  
20                  United States familiar with the subject.

21                  I was one of the scientists and I  
22                  participated actively in reviewing the chapters,  
23                  writing of one chapter and in discussions of a group of  
24                  about eight who played an active role in putting that  
25                  reference book together.



1 Q. Dr. McCormack, I am going to show you  
2 an extract from that text.

3 Madam Chair, it is pages 279 to 280 and I  
4 would ask that that be accepted as the next exhibit.

5 MADAM CHAIR: Exhibit 1220.

6 MS. CRONK: (handed)

7 MADAM CHAIR: Thank you.

8 ---EXHIBIT NO. 1220: Excerpt from a text entitled  
9 Forest Vegetation Management for  
Conifer Production.

10 MS. CRONK: Q. First, Dr. McCormack, as  
11 immodest or otherwise as it might appear, given your  
12 participation with respect to this textbook, do you  
13 regard it as an authoritative textbook on the subject  
14 of vegetation conifer production?

15 DR. McCORMACK: A. I know because of my  
16 firsthand experience in the project that up to the date  
17 of its publication it's the most thorough review of the  
18 literature available.

19 Q. All right. I direct your attention  
20 to page 279 of the extract. I don't propose to deal  
21 with this in any detail, but does it deal, commencing  
22 Midway down that page, with the Siuslaw National  
23 Forest?

24 A. It does, yes.

25 Q. Sorry, didn't I give you a copy?

1                   A. No, I have a copy. I was just -- I  
2                   have my own copy of the book and I just wanted to make  
3                   sure where I was in the book, that's all.

4                   Q. Thank you. Looking at the final  
5                   paragraph at page 279, can you confirm for the Board,  
6                   how large the Siuslaw National Forest is?

7                   A. The text here indicates it occupies  
8                   568,000 acres.

9                   Q. Centred where?

10                  A. Centred in the Oregon Coastal Range.

11                  Q. All right. Mr. Ferguson, can you  
12                  relate that for me in approximate terms to the size of  
13                  the area of the undertaking?

14                  MR. FERGUSON: A. It would be a small  
15                  fraction. My immediate sense is it would be  
16                  approximately the size of an FMA.

17                  Q. Thank you. Dr. McCormack, could I  
18                  ask you to go back to the exhibit introduced by Mr.  
19                  Castrilli, Exhibit 1194.

20                  DR. MCCORMACK: A. What page?

21                  A. Page 1, and to the final paragraph  
22                  before the footnotes on page 1 where he drew your  
23                  attention and read into the record the statement that:

24                         "On a per-acre basis...", this is in the  
25                  first sentence of that last paragraph, do you see that:

1 "On a per-acre basis, the Siuslaw is the  
2 most productive National Forest in the  
3 country." Do you see that?

4 A. I do.

5 Q. All right. When that kind of a  
6 description is given of a National Forest or indeed any  
7 forest, Dr. McCormack, in your view, should we infer  
8 from that that it is the most competitive in terms of  
9 competing species?

10 A. Well, this question came up earlier  
11 in the week and certainly it's very productive ground,  
12 but we have to temper a discussion of the competitive  
13 nature of the vegetation with an understanding of the  
14 vegetation present, but certainly it is very, very  
15 vigorous.

16 Q. All right. Should we infer from that  
17 statement that it is the most competition-rich site in  
18 the United States?

19 A. I would be reluctant to say that  
20 much. I'm personally familiar with this area and  
21 several other very productive sites in the United  
22 States. It's certainly very productive.

23 Q. All right. And looking over the top  
24 of page 2, again of this exhibit, in the first  
25 paragraph. In the last sentence it's indicated, and

1           again I was going to say that Mr. Castrilli read this  
2           to you, but I'm not sure that that was the case. It  
3           reads:

4                       "The major tree species is Douglas-fir;  
5                       however, the forest also supports major  
6                       volumes of...", is that Sitka spruce?

7                       A. Sitka spruce.

8                       Q. "...and western hemlock. The  
9                       principal hardwood species is red alder,  
10                      with some component of...", is that  
11           bisleaf or bigleaf?

12                      A. It's bigleaf maple.

13                      Q. "...bigleaf maple."

14                      Leaving aside red alder which you've  
15           discussed with Mr. Freidin this morning, are those  
16           other species found in the area of the undertaking?

17                      A. Well definitely not. As indicated  
18           earlier, this is the Oregon Coastal Range which is a  
19           rather unique area of forest and these species, in  
20           particular Sitka spruce and western hemlock do not  
21           extend very far toward the east of the North American  
22           continent.

23                      Q. All right. Mr. Ferguson, Mr. Bunce,  
24           do you have a copy of this exhibit?

25                      MR. BUNCE: A. No.

1 MR. FERGUSON: A. No.

2 Q. Perhaps Mr. Ferguson -- and Dr.

3 McCormack, if you could give it to him just to look at  
4 it?

5 I direct your attention to page 3 and  
6 you'll see that under current practices there is a  
7 description of site preparation on this forest. See  
8 No. 1 site preparation.

9 MR. FERGUSON: A. (nodding  
10 affirmatively)

11 Q. And it indicates that to obtain  
12 adequate site preparation two treatments are used:  
13 First, an increased reliance on burning; and, secondly,  
14 hand slashing ahead of burning. And then there's a  
15 description of the timing for the hand slashing.

16 Now, just considering those two  
17 treatments, based on your respective experience in the  
18 area of the undertaking, could those methods be  
19 applied, in your opinion, realistically across the area  
20 of the undertaking to deal with the site preparation  
21 requirements encountered or, I'm really asking you your  
22 view as to whether it's realistic or unrealistic that  
23 those type of methods could be applied across the  
24 entirety of the area of the undertaking?

25 A. I would say we would be very limited



1 if that type of site preparation could be applied in  
2 the area of the undertaking. Some site preparation is  
3 conducted within the area of the undertaking by way of  
4 prescribed burning, but there are rather severe  
5 limitations as to where that can be effectively used.

6 Q. Mr. Bunce, what is your view?

7 MR. BUNCE: A. I would have to agree. I  
8 wonder what they mean by hand slashing. On my FMA in  
9 particular we have done some very intermittent work  
10 with what we would consider hand scalping which is  
11 removing of the duff layer. I think here they are  
12 referring to hand slashing, which is removing the  
13 vegetation.

14 DR. McCORMACK: A. Ms. Cronk, perhaps I  
15 could elaborate to clear up that question for Mr.  
16 Bunce.

17 Q. Thank you.

18 A. In this case hand slashing refers to  
19 manual labour using bladed tools such as brush axes  
20 severing principally the stems of Salmonberry which is  
21 a species of rubus that grows in extended thick growth  
22 across this area.

23 Q. That being the case, Mr. Bunce, my  
24 question was this: Based on your experience, could  
25 those two treatment methods be used across the entirety

1 of the area of the undertaking to deal with the site  
2 preparation circumstances encountered in our area?

3 MR. BUNCE: A. Yes. I hesitate to speak  
4 for the entire area of the undertaking, but I certainly  
5 could say on my area that it certainly wouldn't be the  
6 case on my FMA area.

7 Q. And why is that?

8 A. I don't think that you could  
9 possibly -- well, we just don't do that kind of  
10 treatment. On the areas that require site preparation,  
11 to do the hand slashing would be an impossible task.

12 Q. I know you don't do it today, but  
13 could you do it, realistically?

14 A. No, realistically I don't know how  
15 you could possibly carry out such an undertaking of  
16 that nature on the magnitude of the area we are talking  
17 about.

18 Q. Thank you. Mr. Stanclik, you will  
19 recall that in the cross-examination questions put to  
20 you by Mr. Castrilli there were two exhibits  
21 introduced. I don't propose that you should go to  
22 them, unless you feel you need them, but the first was  
23 Exhibit 1196, it was a resolution document by the  
24 Ontario Professional Foresters' Association and the  
25 second was Exhibit 1197, that was a policy statement by

1 the same organization regarding the use of herbicides  
2 in forestry. Do you recall that?

3 MR. STANCLIK: A. Yes, I do.

4 Q. All right. Dealing with the policy  
5 statement, Exhibit 1197, are you aware of any  
6 resolution, policy directive, communique or any other  
7 document dealing with the policy statement which  
8 indicates that it has, as at today's date, been  
9 rescinded, amended, retracted in any way?

10 A. No, I'm not.

11 Q. Is any other member of the panel  
12 aware of any such document of that kind relating to  
13 that policy estimate?

14 MR. BUNCE: A. No.

15 MR. SMITH: A. (nodding negatively)

16 Q. Dr. McCormack, back to you if I  
17 might, and this time could I ask you to put in front of  
18 you Exhibits 1201 and 1202, these were articles  
19 introduced by Mr. Hanna during his cross-examination of  
20 you. 1201 is Dr. Newton's article.

21 MR. CRONK: I should say, Madam Chair and  
22 Mr. Martel, that I am pretty close to the estimate that  
23 I had and I expect to be about another 20 minutes and  
24 then I'm going to be finished. I don't know whether  
25 you wish to take a break or not.

1                   That's no break, or you don't want to  
2                   until I finish. I thought so, exactly.

3                   MR. MARTEL: Just go.

4                   MS. CRONK: Q. 1201.

5                   DR. McCORMACK: A. I have 1201.

6                   Q. All right. That's Dr. Newton's  
7                   article. A number of portions of this article were  
8                   read to you, you recall, by Mr. Hanna, Dr. McCormack.  
9                   I would ask you, if you would please, to go first to  
10                  page 330, the second page into the article?

11                  A. I have it.

12                  Q. All right. A number of portions as I  
13                  say were read to you, some however were not, and I'm  
14                  going to direct your attention to the left column to  
15                  the first full paragraph beginning with the words, "The  
16                  existing evidence...", do you see that?

17                  A. I do, coincidentally, yes. I have it  
18                  highlighted.

19                  Q. All right. Well, do you agree or  
20                  disagree with the proposition put forward in that first  
21                  sentence?

22                  A. I certainly agree.

23                  Q. Continuing on in that paragraph, it  
24                  is suggested that:

25                  "The Phenoxy herbicides...have been

1 demonstrated effective in promoting  
2 sprouting when applied at certain times  
3 of the year and suppressing sprouts at  
4 others."

5 And further, beginning in the next  
6 paragraph that:

7 "Phenoxy herbicides can stimulate the  
8 development of browse in both broadcast  
9 and individual shrub applications and  
10 increases of browse may be achieved  
11 without exposing the deer to toxic  
12 quantities of herbicide."

13 Do you agree or disagree with those  
14 propositions?

15 A. I agree.

16 Q. And in the next paragraph at the  
17 bottom of the column, on page left - page left - on the  
18 left column at the bottom of the page in the last  
19 paragraph, the second sentence reads:

20 "Wildlife habitat that has been treated  
21 with herbicides is usually accessible,  
22 and gains in browse may be fully used."

23 Do you agree or disagree with that  
24 proposition?

25 A. I agree.



1 Q. Over in the same paragraph over the  
2 beginning of the next page it is suggested - and I  
3 won't go through all of this with you, Dr. McCormack -  
4 that generally herbicides are beneficial both to  
5 wildlife habitat and to wildlife browse.

6 Is that, in your opinion, consistent? Is  
7 that an accurate or inaccurate description of what Dr.  
8 Newton has suggested in this article?

9 A. Generally in terms of that portion of  
10 the article, yes.

11 Q. All right. And generally with  
12 respect to the article?

13 A. Yes.

14 Q. Do you agree or disagree with those  
15 propositions put forward by Dr. Newton in this paper?

16 A. Oh, I agree with Dr. Newton.

17 Q. And could I ask you to go please, if  
18 you would, to page 334. To help you, that's the third  
19 last page of the article.

20 A. I have it.

21 Q. Mr. Hanna took you to the section in  
22 the right-hand column entitled: Management of Wildlife  
23 Friends and Foes, and he read to you a sentence  
24 appearing in the middle of the -- towards the end, but  
25 in the middle of the first paragraph. The sentence

1           that he read to you was this:

2                       "Suppression of desirable habitat species  
3                       caused marked reduction in the use of  
4                       reforestation areas by deer and certain  
5                       small mammals during the period of  
6                       herbicide effect on vegetation."

7                       Do you see that?

8                       A. Yes, I have it.

9                       Q. He did not read to you the next  
10                      sentence. Could you read the next two sentence to the  
11                      Board, please?

12                     A. The next two sentences are:

13                     "The same practices did not affect other  
14                     mammals measurably. Habitat requirements  
15                     were apparently quite specific and  
16                     manageable."

17                     Q. Do you agree or disagree with the  
18                     propositions and observations offered in these last two  
19                     sentences?

20                     A. I agree.

21                     Q. He also did not read to you the  
22                     sentence that preceded the sentence beginning with the  
23                     word 'suppression'. Could you read the preceding  
24                     sentence, please?

25                     A. The proceeding sentence reads:

1 "Habitat for some species can be improved  
2 by selective use of herbicides..."

3 citing a reference and referring to Figure 5 in the  
4 text:

5 "...or impoverished by the same chemicals  
6 used in a different way."

7 Q. And do you agree or disagree with  
8 that general description?

9 A. I agree with the description.

10 Q. Could I ask you very quickly to go,  
11 if you would please, to Exhibit 1200 the second article  
12 put in by Mr. Hanna. And I would ask you to go to the  
13 last page only, Dr. McCormack, in an effort not to keep  
14 anyone here any longer than necessary.

15 The last page -- I'm sorry, it's the  
16 second last page dealing with conclusions.

17 A. Yes.

18 Q. Do you see that? Again, Mr. Hanna  
19 put a proposition to you contained in the middle of the  
20 paragraph. I direct your attention first to the second  
21 paragraph beginning with the word 'obviously'. Do you  
22 see that?

23 A. Yes.

24 Q. He read to you the second sentence in  
25 that paragraph. Could you read the first, please, to

1 the Board and indicate whether you agree or disagree  
2 with the proposition contained in it?

3 A. You are referring to the first  
4 sentence in the paragraph?

5 Q. Of that paragraph, yes.

6 A. That begins 'obviously'?

7 Q. Yes.

8 A. It reads as follows:

9 "Obviously, all site preparation methods  
10 are designed to eliminate or severely  
11 retard the majority of the woody plants  
12 producing hard and soft mast."

13 Q. And the next sentence?

14 A. "But on chemically prepared areas,  
15 many of the woody mast producers escape  
16 injury, recover or resprout."

17 Q. Are those observations consistent or  
18 inconsistent with your own experience, Dr. McCormack?

19 A. They are consistent with my own  
20 experience remembering that this study took place in  
21 the State of Alabama and my experience with these  
22 species took place in the Carolinas but they were the  
23 same species, I can relate to that personally.

24 Q. All right. And could I direct your  
25 attention as well to the preceding paragraph, the first

1 paragraph and the last sentence in it dealing with  
2 chemical site preparation. It's the second sentence of  
3 the first paragraph under conclusions.

4 A. Okay.

5 Q. All right.

6 A. That sentence reads:

7 "Chemical site preparation does not  
8 completely eliminate all vegetation as  
9 the general public is often led to  
10 believe."

11 Q. And the next sentence?

12 A. The next sentence reads:

13 "Frequently the abundance and diversity  
14 of the vegetation on chemically prepared  
15 sites was greater than that which  
16 occurred prior to timber harvest or  
17 resulted from mechanical site  
18 preparation."

19 Q. All right. Now, just dealing with  
20 the first sentence for a moment, as a general  
21 proposition do you agree or disagree with it, the first  
22 of the two you just read?

23 A. With reference to elimination of  
24 vegetation--

25 Q. Yes.



1                   A. --and public perception, I couldn't  
2 agree more strongly.

3                   Q. And with respect to the second, does  
4 it accurately reflect the results indicated in this  
5 study?

6                   A. Without going back through the study  
7 it's my recollection of what reads in the text.

8                   Q. Thank you very much. Then a question  
9 if I might for the Industry representatives.

10                  Mr. Hanna asked each of you how much you  
11 had tended in 1989 on your respective FMA areas and he  
12 asked you whether the current -- how that compared to  
13 what you wanted to tend, was the first part of the  
14 discussion, and the second was whether the current  
15 level of funding restricted tending.

16                  Mr. Stanclik, could I direct the question  
17 first to you. You answered with respect to your own  
18 experience on your FMA that there were funding  
19 restrictions in 1989 that were rectified before year  
20 end. Did I understand your evidence correctly?

21                  MR. STANCLIK: A. In fact they were  
22 rectified before the tending program took place.

23                  Q. In giving your evidence on that  
24 issue, Mr. Stanclik, were you speaking of your own FMA  
25 or of your company as a whole?

1 A. Just my own FMA.

2 Q. All right. Should we infer from the  
3 evidence that you've given on this issue that funding  
4 cutbacks with respect to tending have or have not  
5 occurred with respect to other FMA companies.

6 A. You should just infer that it  
7 concerned my FMA only.

8 Q. All right. And to the rest of the  
9 Industry representatives, in giving the evidence that  
10 you gave to the Board on this issue, were any of you -  
11 and I invite you to indicate this to the Board, if you  
12 were - were any of you intending to suggest that  
13 tending cutbacks on other FMAs had or had not occurred  
14 or were you speaking only to your own FMA?

15 MR. BUNCE: A. I was speaking to my own  
16 areas, but I was speaking for the three FMAs of E.B.  
17 Eddy at the time not just the one particular one of  
18 which I am now the management forester.

19 Q. Thank you. Mr. Smith?

20 MR. SMITH: A. I was just speaking to  
21 Abitibi-Price Thunder Bay.

22 Q. All right. Mr. Ferguson?

23 MR. FERGUSON: A. I'm not sure if Mr.  
24 Hanna actually addressed the question to me, but I  
25 would only be able to speak on behalf of the English

1 River Forest.

2 MR. TOMCHIK: A. I was speaking on  
3 behalf of the Quebec & Ontario Paper Company three  
4 FMAs.

5 Q. All right. And, Dr. Carrow, just one  
6 other very quick question for you, if I might. Ms.  
7 Kleer put to you two articles, Exhibit - again, I don't  
8 know that you need to go to them unless you wish to -  
9 Exhibit 1207, it was an article by Dimond and Spies, if  
10 you recall.

11 DEAN CARROW: A. Yes.

12 Q. And secondly, an article by O.N.  
13 Morris both dealing with the topic of long-term insect  
14 suppression characteristics of B.t.; do you recall  
15 those articles?

16 A. Yes, I recall that.

17 Q. All right. With respect to those -  
18 and, again, if you feel you would like to go to them,  
19 that's fine - but with respect to those articles I just  
20 wish to be clear as to what your evidence was.

21 First, was B.t. applied alone or in  
22 combination with other materials as reported upon in  
23 those articles; do you remember?

24 A. Well, I think in both those cases I  
25 believe there was testing of B.t. in combination with

1 chemicals as well as B.t. tested alone, as I recall.

2 Q. And based on those articles or any  
3 other information, scientific information known to you,  
4 is there any scientific basis, in your opinion, upon  
5 which the Board should conclude that it has been  
6 demonstrated that B.t. enjoys long-term insect  
7 suppression characteristics?

8 Is that a conclusion that you would wish  
9 the Board to take?

10 A. No, I don't think that's been  
11 adequately demonstrated under field conditions,  
12 certainly not to the point where one could consider it  
13 as a standard operational prescription.

14 I think -- in my comments regarding that,  
15 Ms. Cronk, I think I indicated that my own view was  
16 that it was an area that should be looked at under  
17 field experimental conditions more closely. I've  
18 personally urged that over the years with various  
19 agencies, but it's the type of study that would  
20 require -- as you can appreciate, it would require a  
21 long-term commitment, and I think that's one of the  
22 difficulties is, that whoever does that would have to  
23 commit to monitor that situation for probably six or  
24 eight years, so it's not a short-term study.

25 Q. Is it likely or unlikely, in your

1 opinion, Dean Carrow, that the same characteristics  
2 might be enjoyed by various chemical insecticides?

3 A. I think it's a distinct possibility  
4 that regardless of which agent you're applying that  
5 there is the possibility of a sublethal effect which  
6 carries forward in the population that might reflect  
7 itself as reduced reproductive capability, for example,  
8 reduced vigor of the survivors, and I wouldn't see any  
9 particular reason to restrict that to B.t. at this  
10 time, although it has -- the experimentation that has  
11 taken place has focused on B.t. particularly.

12 Q. All right. There's reference in  
13 those articles to something called Acephate; what is  
14 that?

15 A. Yes. It's a registered chemical  
16 insecticide, it's also known as Orthene. It's one of  
17 the insecticides listed in our evidence here as being  
18 registered for use against a number of forest insect  
19 pests.

20 Q. And I mispronounce this, Dean Carrow,  
21 but there is at least reference in at least one of  
22 those articles to something called chitinase?

23 A. Chitinase.

24 Q. Wasn't even close. What is that,  
25 please? I apologize. What is it?



1                   A. Chitinase is an enzyme, it's a  
2 naturally occurring enzyme poultry occurring and Dr.  
3 Smirnoff isolated that enzyme back in the 70s using I  
4 think a rather elegant line of reasoning that chickens  
5 had the ability to digest insects, which was absolutely  
6 right, and that ability to digest insects was due to  
7 the fact that they contain chitinase in their gut and  
8 he reasoned that if he were to extract chitinase and  
9 add it to the B.t. formulation that in fact it might  
10 enhance the effectiveness of B.t. when it's ingested by  
11 the insects.

12                   Q. And was that tested as well?

13                   A. It certainly was.

14                   Q. Leaving aside any judgments one wants  
15 to make about that study.

16                   A. Yes, it certainly was, for a number  
17 of years.

18                   Q. Two final questions for you, Dean  
19 Carrow. Ms. Kleer asked you -- your Table 12 deals  
20 with major insect pests, if you recall?

21                   A. Yes.

22                   Q. She asked you a number of questions  
23 relating to it and she suggested in her questions of  
24 you that there were silvicultural mechanisms, I think  
25 she called them silvicultural crop controls, available

1 for the control of identified insects in that table.  
2 Do you recall the discussion about the number of the  
3 insects?

4 A. Yes, mm-hmm.

5 Q. And she mentioned, for example -- and  
6 there was discussions about leader clipping, there was  
7 discussion about adjusting planting time for seedlings  
8 to deal with black army cutworm; do you recall the  
9 discussion in general terms?

10 A. Yes, mm-hmm.

11 Q. All right. In your opinion, Dean  
12 Carrow, is it realistic or unrealistic to suggest that  
13 silvicultural control mechanisms could serve as a full  
14 response to the insect pest problems encountered in the  
15 area of the undertaking?

16 A. I think that would be very misleading  
17 to the Board to leave that impression. The techniques  
18 that were brought out in that discussion, Ms. Cronk,  
19 are all valid techniques in particular situations but,  
20 in my view, they constitute part of an integrated pest  
21 management approach to the management of forest pests  
22 and, by very definition, integrated pest management  
23 involves the use of a variety of techniques that are  
24 tailored to meet the needs on a situation by situation  
25 basis.

1                   And in some situations, I think I alluded  
2                   to in my response to Ms. Kleer, a leader clipping, for  
3                   example, is quite a reasonable way to approach that  
4                   particular problem; if one is managing that problem on  
5                   the magnitude of thousands of hectares, it's not very  
6                   reasonable.

7                   Q.   Then the second final issue, again  
8                   which she discussed with you, concerned the May, 1985  
9                   statement or, put it in neutral terms for this  
10                  question--

11                  A.   Yes.

12                  Q.   --statement that was made by the  
13                  Minister of Natural Resources concerning the aerial  
14                  spray program of the Ministry and the use of chemical  
15                  insecticides.

16                  A.   Yes.

17                  Q.   Do you recall the discussion  
18                  generally about that? She drew your attention to a  
19                  reference in that statement, a reference indicating  
20                  that the potential impact of the infestation had been  
21                  taken into account, that was a quote by the Minister of  
22                  the day. Do you recall that?

23                  A.   Yes, that's correct.

24                  Q.   All right. I want you to assume,  
25                  Dean Carrow, that that occurred, that there was such a

1 consideration of the potential impact of the  
2 infestation. Are you clear on the assumption?

3 A. Yes.

4 Q. All right. Is there any information,  
5 data, report or document of which you are aware that  
6 suggests that that consideration of the potential  
7 impact of the infestation led to a conclusion that  
8 there were scientific grounds upon which to introduce a  
9 generic ban on the aerial use of chemical insecticides?

10 A. No, I'm certainly not aware of such a  
11 record, Ms. Cronk, and in fact I interpreted that  
12 particular statement that Ms. Kleer was referring to as  
13 being an analysis of the situation in 1985 only for  
14 that particular set of circumstances in that year, and  
15 that the results of that analysis were that potential  
16 impact of the problem was such that it led them to the  
17 conclusion they could use B.t. only in that particular  
18 year.

19 Q. All right.

20 A. But I'm not aware of a more  
21 comprehensive study than that.

22 Q. Then or now?

23 A. Then or now.

24 Q. All right. And finally, Dr.

25 McCormack - only because rightly or wrongly I can't

1 resist asking you at least one clarifying question  
2 about what you told Mr. Hanna - could I ask you to go  
3 to Exhibit 722 - well, I'm not sure that you even need  
4 it - Exhibit 722 is the article which you co-authored  
5 with Dr. Newton, among others, concerning browse  
6 availability after conifer release in Maine Spruce/Fir  
7 Forest; do you recall that?

8 DR. McCORMACK: A. I do.

9 Q. One of the individuals named as a  
10 co-author of that document is an R.A. - forgive me -  
11 Lautenschlager. How you say that?

12 A. Lautenschlager.

13 Q. I apologize. And you told this Board  
14 that he talked to the moose, and I'm afraid I don't  
15 understand it. And could you explain please exactly  
16 what you meant before you leave the jurisdiction to go  
17 home, what do you mean, that the man spoke to moose?

18 A. I don't think I said he spoke to the  
19 moose, I think I made reference to the fact that we  
20 asked the moose -- Mr. Lautenschlager --

21 Q. I'm not sure there's a lot of  
22 difference, but maybe if you get a reply there is, I  
23 don't know.

24 A. Well, the only way the moose was able  
25 to respond was to feed and allow Mr. Lautenschlager to



1           closely observe the feeding.

2                       And what I meant by that was for a period  
3 of time, approximately two years, Mr. Lautenschlager  
4 lived in a small trailer with five animals; two moose,  
5 and three deer. He raised them, he was able to lead  
6 them into cut-over areas on a regular basis and allow  
7 them to feed on their own. He would let them wander  
8 about and select their choices in the cut-over.

9                       He carried with him a tape recorder and  
10 sample bags so as, in the case of the moose, the moose  
11 would feed on a given item of vegetation it would be  
12 noted on the recorder and when the moose was through  
13 feeding Mr. Lautenschlager would sample sections of  
14 exactly the same plant similar to the portions the  
15 moose had eaten.

16                      Those were numbered. So in the process  
17 Mr. Lautenschlager collected data on what the moose  
18 chose to feed -- on which the moose chose to feed and,  
19 at the same time, sampled that material to evaluate it  
20 for its nutrient contents and any -- he made other  
21 observations relative to the character of the  
22 vegetation.

23                      And it was on the basis of his background  
24 with this that we requested his participation and  
25 gained his insight when we evaluated the browse quality

1 and growth and amounts on that Austin Pond study site.

2 Q. And did he participate in that way  
3 with respect to the preparation of -- the conduct of  
4 the study and the preparation of the reporting article?

5 A. He did, yes. He was in the field and  
6 also participated in handling the data.

7 Q. All right. Thank you very much, Dr.  
8 McCormack, and thank you, Panel.

9 MADAM CHAIR: Just one question for Dr.  
10 McCormack. I have got to assume Mr. Lautenschlager was  
11 a bachelor?

12 MS. CRONK: He was when it started.

13 DR. MCCORMACK: The last thing I would  
14 like to do would be to get into a discussion of Mr.  
15 Lautenschlager's private life. I trust it's beyond the  
16 scope of these proceedings.

17 MADAM CHAIR: Absolutely.

18 MS. CRONK: Thank you very much, Madam  
19 Chair, Mr. Martel.

20 MADAM CHAIR: Thank you, Ms. Cronk.

21 Thank you very much, members of the  
22 witness panel. The Board appreciates your hard work  
23 and best efforts and we thank you for your stamina.

24 MR. TOMCHICK: Madam Chair, I'm not going  
25 to win any friends at this point. Ms. Kleer gave me an

1       undertaking on Wednesday to provide some information  
2       regarding the research priorities as identified by  
3       Ontario Forestry Research Committee.

4               MADAM CHAIR:   Yes.

5               MR. TOMCHICK:   And I finally scared up  
6       that information.

7               MADAM CHAIR:   Do we have an exhibit  
8       number for that?

9               MS. CRONK:   No, it was not reserved,  
10      Madam Chair.

11              Could this be marked as the next exhibit,  
12      Madam Chair, then please.

13              MADAM CHAIR:   Yes.   That would be Exhibit  
14      1221.

15      ---EXHIBIT NO. 1221:   Written reply to NAN undertaking  
16                                  given in oral evidence on May  
                                  30th, 1990.

17              MS. CRONK:   Mr. Tomchick, could you  
18      describe to the Board or explain to the Board what this  
19      is, please?

20              MR. TOMCHICK:   Yes, I could.   The first  
21      page of this shows the priorities areas of research  
22      needed as identified by the Ontario Forestry Research  
23      Committee and there is six subcommittees.

24              Now, if you go -- it's a little bit hard  
25      to read here, but if you go along the top you see four

1 of the six subcommittees and then halfway down the  
2 second column you see the tending subcommittee, and  
3 halfway down the fourth column you see the impacts of  
4 environmental change subcommittee. So those are the  
5 six subcommittees. On these are general priority areas  
6 of research as identified by the Ontario Forestry  
7 Research Committee.

8 Now, Ms. Kleer asked me to try to  
9 identify those areas of research, in particular those  
10 ones related to alternative vegetation management  
11 techniques and, in order to do that, I went to the  
12 report that the tending subcommittee made in respect of  
13 research in particular to tending.

14 Now, the next page in that package, first  
15 of all, identified current gaps in tending research as  
16 identified by the tending subcommittee and it's in the  
17 form of a matrix where, along the left-hand side, you  
18 have different areas of research and across the top you  
19 have basically the scope of the research and  
20 competition control amelioration and density control.  
21 And you can see that they have identified as a gap in  
22 tending research, under alternative methods there's a  
23 gap in research in terms of developing non-chemical  
24 weed control.

25 If you turn to the next page, they've

1 prioritized that gap as a priority No. 2 or  
2 mid-priority.

3 If you go to the third page or the third  
4 matrix, here they have identified all the needs -- all  
5 the tending needs as seen by forest managers, and there  
6 is no particular rank here, they are just identified  
7 here. And you can see again under alternative methods  
8 and competition control one of the needs in tending  
9 research is to develop non-chemical weed control.

10 The next page shows, according to the  
11 tending subcommittee and survey that they did, the  
12 number of projects that were ongoing at that time,  
13 which is 1987, and you can see that in respect of  
14 alternative methods of competition control there were  
15 eight projects ongoing at that time.

16 If you go to the next page there was  
17 independent survey completed that the tending  
18 subcommittee used to assist them in determining what  
19 research needs were required. This is a Longwood  
20 Survey, and this Longwood Survey also indicated that  
21 alternative methods of vegetation control was a  
22 definite need that forest managers sought in respect of  
23 tending or in respect of tending research.

24 Finally, the last page is a prioritization  
25 of these research needs as seen by the tending



1       subcommittee, and you can see that alternative methods  
2       of competition control in terms of non-chemical weed  
3       control, out of twelve areas that they looked at, it  
4       was ranked as priority No. 5.

5               Also I'm aware that there is data -- Ms.  
6       Kleer also asked me to, if possible, determine the  
7       level of expenditures that were expended on these  
8       particular research areas. I'm aware that there is a  
9       list of expenditures; however, they do include  
10      expenditures by private companies and both forestry  
11      companies and chemical companies, and I'm not at  
12      liberty, I don't think, to divulge that data.

13             MS. CRONK: The undertaking is  
14      outstanding, Madam Chair, and perhaps what I can do is  
15      determine what information is available and we'll  
16      respond as best we can.

17             MADAM CHAIR: Thank you, Ms. Cronk.

18             MS. CRONK: Thank you, Mr. Tomchick.

19             MADAM CHAIR: Is that it?

20             All right, thank you very much. We will  
21      adjourn until 8:30 Monday morning.

22             MS. CRONK: Thank you.

23             MADAM CHAIR: Thank you.

24      ---Whereupon the hearing adjourned at 3:20 p.m., to be  
25      reconvened on Monday, June 4th, 1990, commencing at  
      8:30 a.m.













